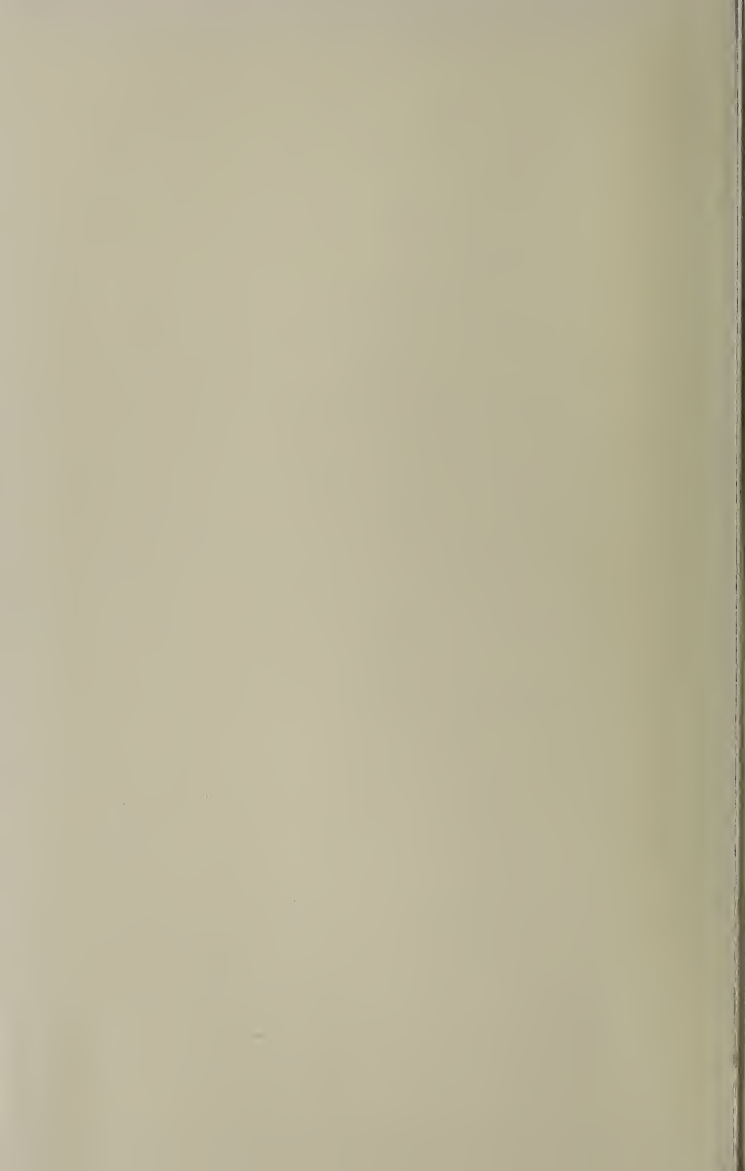






National Institute on Drug Abuse

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Progress and Issues in Case Management

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ACKNOWLEDGMENT

This monograph is based on the papers and discussions from a technical review on "Progress in Case Management" held on February 4-5, 1992, in Bethesda, MD. The technical review was sponsored by the National Institute on Drug Abuse (NIDA).

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DHHS publication number (ADM)92-1946

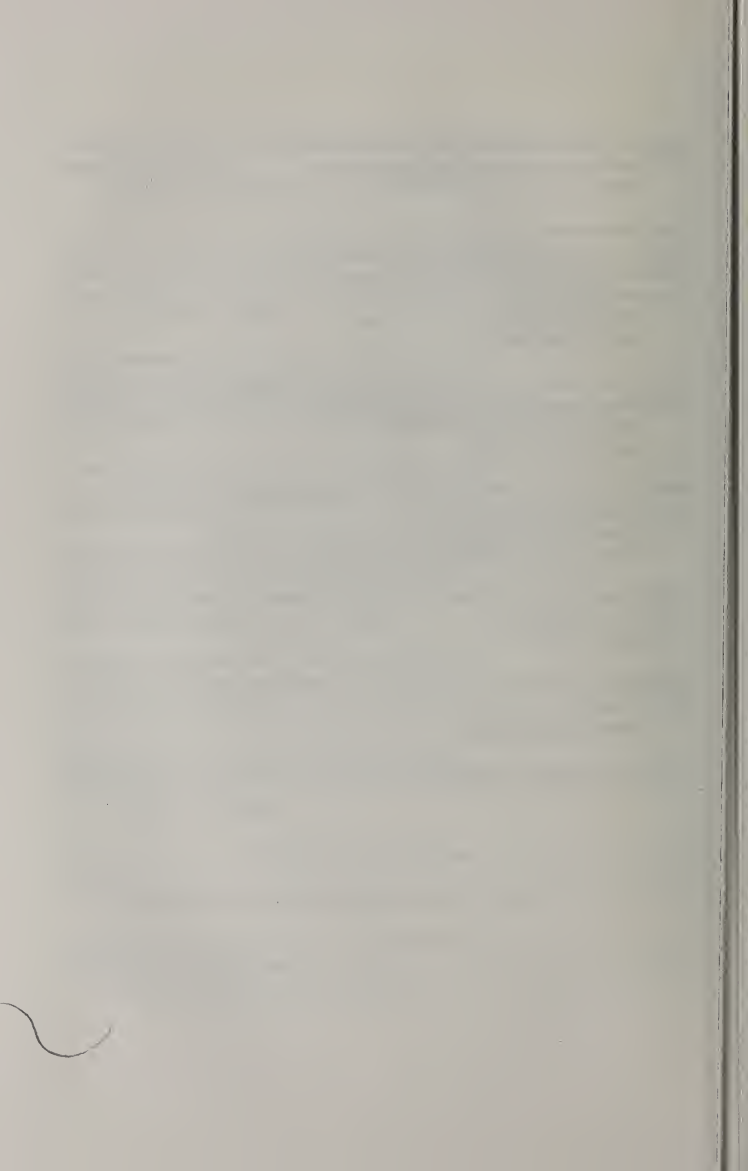
Printed 1992

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Executive Summary

Rebecca Sager Ashery

INTRODUCTION

A technical review on "Progress and Issues in Case Management" was held on February 4 and 5, 1992. The purpose of the technical review was to examine research studies on case management and substance abuse and to consider future research directions. The review represents the cutting edge in research on case management and substance abuse. Although several studies have been conducted in the past on case management with chronically mentally ill persons, the research presented in the technical review and in this monograph represents first-time endeavors to conduct studies on case management with substance abusers. Several case management models are being used in a variety of settings with different substance-abusing populations. The studies are in various stages—some have been completed, whereas others are in their first year, and still others are in the middle. All the studies are collecting both quantitative and qualitative data, and they represent randomized clinical trials and evaluation studies. Some of the studies are comparing case management alone to a standard intervention, whereas others are testing case management plus an additional intervention(s) to a standard intervention. Participants discussed both research and service delivery issues, such as barriers to accessing resources, gaps in services, community linkages development, model development, case manager/client ratio, cost-effectiveness and cost-containment, instruments and measurements, and background and education of case managers.

The presentations were divided into several parts, which included (1) an overview of case management; (2) case management and drug treatment; (3) case management and outreach; (4) case management and special populations, including persons with the human immunodeficiency virus (HIV), homeless people, women, and youth; (5) case management and linkages; and (6) case management with the criminal justice population. Below is a summary of the chapters that resulted from the technical review.

OVERVIEW OF CASE MANAGEMENT

Application of Case Management to Drug Abuse Treatment: Overview of Models and Research Issues

M. Susan Ridgely and Mark L. Willenbring. Ridgely and Willenbring emphasize that case management remains a loosely defined service, lending itself to many adaptations to achieve a variety of objectives. They propose a typology looking at the interaction among the functions and dimensions of case management across programs. Four aspects of evaluation that are necessary to improve the state of the art are discussed: (1) precise description of the intervention, (2) implementation analysis, (3) implementation timetable, and (4) description of the environment in which the program functions. Ridgely and Willenbring also discuss potential problems in field research and measurement.

Managed Care and Case Management of Substance Abuse Treatment

Albert Woodward. Woodward states that no single, widely accepted definition of managed care exists; however, many definitions share the same elements. Managed care, as distinct from case management, is a cost-containment strategy. Case management may often be used as part of a managed-care plan. Issues in the managed care of drug treatment include tension between quality of care vs. cost savings and cost-containment, the influence of financial incentives in terms of quality of care, the lack of uniform explicit and relevant criteria for assigning and monitoring patients in drug treatment, difference in impact of managed care on public- and private-sector drug treatment programs, and questions of cost benefits and savings. Woodward states that although the primary goal of case management is not cost savings (like managed care), with contracting public budgets it is paramount that case management show itself to be cost-effective or cost-beneficial.

CASE MANAGEMENT AND TREATMENT

Accessing Additional Community Resources Through Case Management To Meet the Needs of Methadone Clients

Michael L. Dennis, Georgia T. Karuntzos, and J. Valley Rachal. Dennis and colleagues present data from two studies that the Research Triangle Institute is conducting to examine the unmet needs of methadone clients and the extent to which the case management approach can be used to improve treatment outcomes. Both studies identify two major gaps in the existing service system: (1) unavailability of local resources to help clients meet small and immediate expenses to cover things such as car repairs, license exams, and initiation fees;

and (2) operation shortfalls that prevented immediate intakes but not long-term commitments (i.e., vocational programs that had slots but were out of funds for child care). Data from one of the studies indicate that case managers were able to reduce the application time for most benefit programs by 50 to 80 percent. Dennis and colleagues recommend specific design features that should be incorporated in future studies and in assessing the validity of the experiment.

A Strengths-Based Model of Case Management/Advocacy: Adapting a Mental Health Model To Practice Work With Persons Who Have Substance Abuse Problems

Richard C. Rapp, Harvey A. Siegal, and James H. Fisher. Rapp and colleagues report on the initial model of the Enhanced Treatment Project, which is in the beginning stages. The premise of the project is that case management activities will improve treatment retention and compliance by assisting patients in acquiring necessary resources and also by serving as a therapeutic intervention. The project plans to recruit 600 veterans who apply for substance abuse treatment at the Veterans Affairs Medical Center (VAMC) in Dayton, OH. Veterans will be randomly assigned to one of the following: (1) pretreatment induction (weekend intervention program) and case management/advocacy, (2) case management/advocacy alone, (3) pretreatment induction alone, or (4) no pretreatment induction and no case management/advocacy. All veterans will participate in the standard inpatient or outpatient VAMC programs. The case management/advocacy used in the project is based on the strengths approach developed by Rapp and Chamberlain (1985). The model is predicated on five principles, of which the foremost focuses on assisting the client to utilize his or her strengths and assets as the vehicle for acquiring needed resources. Case management/advocacy activities may continue for up to 6 months. All veterans in the project will be reinterviewed at 6, 12, and 18 months after intake to determine the effects of project interventions. Rapp and colleagues address the role of therapist vs. case manager and the potential conflict between the disease concept of substance abuse and the strengths perspective.

Case Management: An Alternative Approach to Working With Intravenous Drug Users

Peter J. Bokos, Cheryl L. Mejta, Judith H. Mickenberg, and Robert L. Monks. The Interventions research study was designed to evaluate the effectiveness of a case management approach compared with standard treatment in improving intravenous drug users' (IVDUs) access to and retention in treatment, treatment completion, and reduction in posttreatment relapses. A total of 300 matched IVDUs seeking publicly funded treatment will be enrolled in the study and

assigned to the case-managed condition or to the standard-treatment condition (150 people in each) and followed for 3 years. Clients assigned to the standard-treatment condition receive the names, addresses, and telephone numbers of three substance abuse clinics within the client's geographical vicinity. Clients assigned to the case-managed condition are referred to a case manager who completes an initial client assessment, facilitates the client's entry into treatment, and addresses other immediate needs of the client such as housing and transportation. So far, 204 clients have been admitted to the study (102 in each group). Ninety percent of the case-managed clients and 35 percent of the control clients have entered a substance abuse treatment program. The average length of time to admission into a substance abuse treatment program was 6.19 days for the case-managed clients and 31.69 days for the control clients. Within 15 days, 76 percent of the case-managed clients were admitted into a substance abuse treatment program compared with 7 percent of the control clients.

CASE MANAGEMENT AND OUTREACH

Transitional Case Management: A Service Model for AIDS Outreach Projects

Victor Lidz, Donald A. Bux, Jerome J. Platt, and Martin Y. Iguchi. Transitional case management (TCM) aims at time-limited or short-term service to make a quick, effective intervention in the lives of clients. The project, which was part of an outreach demonstration project, emphasized the brokerage element of case management—the attempt to place clients with agencies that can deliver services matched to their needs with some monitoring of the service delivered. IVDU and sexual partner subjects obtained through street outreach were compared in Jersey City, NJ, and Newark, NJ. The study had three comparison protocols. Only 38 percent of clients starting TCM completed the standard four sessions. However, in spite of this, 83 percent of clients received service from the TCM referral procedure compared with 13 percent for the standard care group. Most clients wanted specific help only and tended not to be looking for more comprehensive care. Lidz and colleagues suggest several enhancements to reduce attrition.

Delivering Case Management Using a Community-Based Service Model of Drug Intervention

Judith A. Levy, Charles P. Gallmeier, William W. Weddington, and W. Wayne Wiebel. Two hundred active drug abusers in Chicago are being recruited for the Neighborhood Outreach Demonstration Project. Subjects are randomly assigned to the standard (control) or the enhanced group. The standard group

receives a referral list of agencies, and the worker will set up an appointment by telephone. The community-based service (enhanced) model group receives case management and peer support. The professional case manager meets on a regular basis with the client and sets goals, discusses difficulties, makes linkages, and monitors the client's progress. The indigenous outreach worker provides on-the-street support, which includes helping clients find transportation, providing followthrough on appointments, and serving as a source of encouragement. Therefore, in this model, the professional case manager and the indigenous outreach worker work as a team. Levy and colleagues describe difficulties in carrying out the research and four sets of findings related to programmatic issues.

Case Management To Enhance AIDS Risk Reduction for Injection Drug Users and Crack Cocaine Users: Practical and Philosophical Considerations

Russell S. Falck, Harvey A. Siegal, and Robert G. Carlson. The Dayton-Columbus AIDS Prevention Research Project employs a service-broker case management model nested in an acquired immunodeficiency syndrome (AIDS) educational program. This is a street outreach project aimed at injection drug users (IDUs) and crack users. These subjects will be randomly assigned to one of three intervention tracks. Subjects randomized into the enhanced intervention track will receive AIDS educational sessions and case management. The uniqueness of the intervention is that it blends two different approaches to modifying human behavior: (1) a cognitive behaviorally oriented educational program coupled with (2) a service-broker model of case management. The total intervention has a 2-month time limit. The model was being pilot-tested at the time of the presentation.

SPECIAL POPULATIONS

Case Management Services for HIV-Seropositive IDUs

H. Virginia McCoy, Sally Dodds, James E. Rivers, and Clyde B. McCoy. McCoy and colleagues report on a 1-year demonstration program that involved collaborative efforts between the University of Miami Comprehensive Drug Research Center and the South Florida AIDS Network on an evaluation of AIDS prevention education and case management services for HIV-seropositive IDUs. Participants were randomly assigned to either the case management or the control group. Participants in the case management group were assigned to a case manager and received HIV prevention/education services and basic case management services. The project has documentation on the cost of services and on the time and efforts to maintain contact and monitor those in

the enhanced group. Data suggest that attention to engagement and interaction with a client is a critical task of case managers working with IDUs.

Case Management Models for Homeless Persons With Alcohol and Other Drug Problems: An Overview of the NIAAA Research Demonstration Program

Harold I. Perl and Mary Lou Jacobs. Perl and Jacobs report on the Cooperative Agreements for Research Demonstration Projects on Alcohol and Other Drug Abuse Treatment for Homeless Persons funded by the National Institute on Alcohol Abuse and Alcoholism. Thirteen of the fourteen projects have proposed to provide case management services to meet the goal of increasing linkages and cooperation among local social service agencies. Each project has conceptualized the structure and intensity of its case management model in a different way. Perl and Jacobs review some of the structural and functional dimensions across which the different programs vary, including barriers to program implementation. All the projects will be conducting outcome and process evaluations. Perl and Jacobs also describe the Quarterly Report Form used by the projects, which forms a matrix that gives information about services rendered.

Integrating Qualitative and Quantitative Components in Evaluation of Case Management

Mark L. Willenbring. Willenbring discusses the importance of integrating qualitative and quantitative approaches to case management. The Community Treatment for the Chronic Public Inebriate project was a randomized, controlled trial comparing the effectiveness of three levels of intensity of case management. Subjects consisted of 260 male public inebriates. Willenbring discusses qualitative methods used in the collection of information, including narrative logs, interviews, and observation. He emphasizes that whenever possible multiple quantitative and qualitative methods should be used, which can reduce the chances for biased conclusions based on distorted data or for missing a critical factor.

Case Management Systems Represented in the NIDA-Supported "Perinatal-20" Treatment Research Demonstration Projects

Elizabeth R. Rahdert. Rahdert reports on the Perinatal-20 grant program, which comprises 20 treatment research demonstration projects offering comprehensive, therapeutic, and adjunct services on a long-term basis to addicted women of childbearing age and to their children and other family members. Most of the projects include case management and represent

various models and components. Rahdert gives examples of functional components associated with traditional case management systems that are incorporated into at least one of the Perinatal-20 projects. These components include outreach, home visiting, the use of screening and diagnostic assessment instruments, service planning, the linking and coordinating of services, the monitoring of service delivery and utilization, and advocacy. By collecting a common set of defined data, the Perinatal-20 projects will be able to critically examine each case management functional component in terms of its contribution to enlisting and retaining addicted women in treatment.

Case Management: A Telecommunication Practice Model

Farrokh Alemi, Richard C. Stephens, and John Butts. Alemi and colleagues focus on the potential impact of talking computers on case management. They believe that telecommunications can radically improve the productivity of case managers and help clients directly. Alemi and colleagues will be testing the use of computers in a variety of ways for both clients and providers. One method consists of a telephone support group that enables patients to participate in group discussions from their homes without revealing their identity. A randomized trial has been designed that divides volunteer, drug-addicted pregnant women into two groups: a control group with traditional case management and an experimental group with telephone-assisted case management. One hundred and fifty patients will be assigned to each group.

Aftercare for Formerly Homeless, Recovering Women: Issues for Case Management

Deborah McMillan and Rose Cheney. The Aftercare project, which is in the beginning stages, focuses on 200 formerly homeless recovering women with children. The target population will be randomized into two groups. One group will receive peer support and case management, and the other will receive case management alone. Subjects will be followed for 18 months. The caseload will consist of one case manager to 15 families. The case management model incorporates a philosophy of empowerment. McMillan and Cheney identify several barriers in working with the target population, including the need for life and parenting skills, manipulative coping behaviors, transportation, and the potential for relapse. They also identify roles for the case manager, including advocate, treatment coordinator, educator, and therapist. Major gaps in services, such as the lack of affordable housing, affordable child care, and material goods, will require advocacy by the case manager.

Intensive Case Management for Youth With Serious Emotional Disturbance and Chemical Abuse

Mary E. Evans and Norin Dollard. Evans and Dollard report on a New York State Children and Youth Intensive Case Management (CYICM) program that has the goal of maintaining children and youth with serious emotional disturbances in the natural home. The program has a 24-hour-per-day, 7-day-per-week response capability. The child-to-worker ratio is 10:1. The intensive case managers have access to flexible service dollars that can be used to facilitate the client's access to needed services and supports. Although chemical abusers displayed a greater number of and different constellation of problem behaviors and symptoms than nonabusers, the outcomes for both abusers and nonabusers after the intensive case management program were similar, with the abusing group spending significantly fewer days in State inpatient hospitals and having fewer numbers of admissions than they had experienced in the year prior to enrollment. The chapter discusses barriers to model development and implementation and identifies impediments to interagency cooperation and gaps in services. The chapter also outlines several research strategies, including descriptive studies, program evaluation, and funded research, that are used in assessing the effectiveness of CYICM.

CASE MANAGEMENT AND LINKAGES

Case Management as a Mechanism for Linking Drug Abuse Treatment and Primary Care: Preliminary Evidence From the ADAMHA/HRSA Linkage Demonstration

William E. Schlenger, Larry A. Kroutil, and E. Joyce Roland. Schlenger and colleagues report on a National Evaluation of the ADAMHA/HRSA Linkage Demonstration program. The goals of this program were to (1) recognize and treat the health care problems of drug abuse treatment clients, (2) recognize and treat substance abuse in the context of the primary care system, and (3) identify feasible approaches to the provision of integrated health care in the context of existing community-based services. Twenty-one grantees located in 19 cities and 15 States across the country were funded. The purpose of the National Evaluation is to identify and describe promising models whose efficacy could be studied more rigorously in subsequent demonstrations. All 21 projects proposed to use case management as a mechanism for achieving linkage. Schlenger and colleagues give descriptive information about the linkage program. Findings indicate that those who are identified through drug abuse treatment are more likely than those who are identified through primary care to receive drug abuse treatment (90 percent vs. 30 to 60 percent, respectively). Clients identified in centralized model projects (nurse practitioners onsite at the

drug treatment facility) were nearly twice as likely to receive treatment than those identified in decentralized models (services offered at different locations) (65 vs. 31 percent for any treatment). Findings suggest that those who receive more case management receive more services of all kinds. The relationship is particularly strong in decentralized models. A second phase of the National Evaluation will address the issue of models, characteristics of the case managers, and service delivery.

Development and Implementation of an Interorganizational Case Management Model for Substance Users

Ellen P. McCarthy, Zoila Torres Feldman, and Benjamin F. Lewis. McCarthy and colleagues report on an interorganizational effort (part of the ADAMHA/HRSA Linkage Demonstration program) to develop and evaluate a model for the provision of primary health care services to substance abusers and for the referral to appropriate substance abuse services of individuals in need of treatment. The program has a central organizing and coordinating entity, which is a federally funded community health center serving a predominantly Hispanic population but also provides services citywide. A system of interorganizational case management was designed and implemented to accomplish linkage objectives to primary health care and substance abuse programs and HIV services. Thirteen key agencies participate in the model. A linkage case coordinator is employed by each of these agencies and is considered a point of entry into the linkage program. He or she acts as an intermediary to link the services of agencies in the community together so that the client has access to a comprehensive range of care. Agency coordination takes place at multiple levels. The evaluation component of the program focuses on the extent to which linkages have been accomplished between the substance abuse and primary health care systems.

CRIMINAL JUSTICE

Assertive Community Treatment With a Parolee Population: An Extension of Case Management

James A. Inciardi, Howard Isenberg, Dorothy Lockwood, Steven S. Martin, and Frank R. Scarpitti. Inciardi and colleagues report on the University of Delaware's Assertive Community Treatment program, which combines case management services with an intensive outpatient treatment regimen for drug-involved parolees. The focus of the model is on helping the client reenter the community by providing "in vivo treatment." Components of the model include active face-to-face contact between counselor and client and the availability of staff to clients at all times. Counselors have access to instrumental support for

clients (e.g., job training, rent and food money, and transportation) and more traditional forms of treatment, rehabilitation, and support group services. As applied to parolees, the model has time limits and success goals. There are five phases for drug treatment, varying in intensity. During the course of the study, 200 study subjects will be randomized into treatment and control groups. A third comparison group includes parolees who have graduated from a prison-based therapeutic community. Inciardi and colleagues discuss the barriers in conducting research with a parolee population and problems in conducting research on case management.

TASC: Case Management Models Linking Criminal Justice and Treatment

Foster Cook. The Treatment Alternatives to Street Crime (TASC) programs provide a structured linkage between the justice and treatment systems. There are 185 TASC programs in 24 States and 2 territories. TASC is capable of intervening from the time of arrest through parole, with juveniles or adults and with all types of offenses. TASC programs routinely serve offenders who use alcohol or other drugs as they move forward through the justice system, coordinating services throughout the process. TASC programs surveyed by the National Consortium of TASC Programs in 1987 reported that the majority of TASC clients were adults between the ages of 25 and 40; 82 percent were male, and 53 percent were minorities. Seventy-eight percent were charged with a felony arrest, and 75 percent had prior arrests. Cook points out that recent studies have documented the success of coerced treatment for drug-involved offenders. TASC clients have been found to remain in treatment 6 to 7 weeks longer than other criminal justice-referred or voluntary clients. Cook discusses the 10 critical elements and accompanying performance standards upon which the TASC programs have developed their assessment protocols. More than 40 local program evaluations took place between 1972 and 1982. Most evaluation studies found TASC effective in linking the criminal justice and treatment systems. There has never been a national evaluation of the entire TASC effort; however, three representative studies are under way.

REFERENCE

Rapp, C.A., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30:417-422, 1985.

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Application of Case Management to Drug Abuse Treatment: Overview of Models and Research Issues

M. Susan Ridgely and Mark L. Willenbring

INTRODUCTION

There is growing interest in case management in the drug abuse treatment field. Changes in the way drug abuse is viewed, problems in the current delivery of drug abuse treatment, and cost containment pressures have all converged to heighten curiosity about the usefulness of case management.

First, over time, practitioners and researchers have acquired a more complex and complete view of the phenomenon of drug dependence. Rather than viewing drug abuse as a single phenomenon, drug abuse has come to be viewed as a multifaceted problem with presentations ranging from acute abuse to chronic dependence, with high potential for relapse and recidivism. Rather than there being a single effective approach to treatment, multiple approaches are required. Patient-treatment matching has become a preoccupation.

There are identified subgroups of drug-dependent persons who are less responsive to currently available treatments or who have special access problems. Some of these subgroups are human immunodeficiency virus-positive intravenous drug users, poor and homeless drug users, and people with concomitant mental illness and drug dependence. These people, defined as having complex needs, require continual rather than episodic drug abuse treatment and human services beyond drug abuse treatment. This constellation of needs is similar to that presented by other populations with complex needs such as people with chronic mental illness, frail elderly persons, and people with acquired immunodeficiency syndrome (AIDS). Mental health, social welfare, and medical programs have been used as case management interventions in the delivery of care to these groups.

The presence of complex needs implies that multiple agencies will be providing services to individuals over time, requiring coordination for care to be delivered

in the most efficient and effective manner. However, public treatment systems are often fragmented and lacking in structures for continuous care. Although the problems of many drug-dependent people are chronic in nature, many conventional drug treatment programs provide treatment only for a limited time. Although some drug-dependent persons need support and treatment (continuously or intermittently) for months to years, public treatment systems offer them acute intervention on an episodic basis, at best. In addition, even for those who require acute care, few drug treatment agencies have the staff and programmatic resources to provide critical ancillary services and opportunities such as job training and access to alcohol- and other drug-free housing. Yet many drug-dependent persons have difficulty accessing mainstream social service, health, and human service agencies. Case management is appealing, then, because it often involves coordinating the care of individuals over long periods. In addition, case management, depending on its design and implementation, can address problems of accessibility to services outside the drug treatment system.

Another important trend that has led to the current interest in case management in drug treatment is the increasing focus of public and private payers on accountability and cost reduction. Although not all case management programs are specifically designed to reduce costs, it is widely believed that case management will have an effect on overall costs of intervening in the lives of drug-dependent individuals if it (1) results in the substitution of less expensive forms of treatment or (2) results in substitution of drug abuse treatment for incarceration or hospital care.

Case management has become such a popular notion that, despite the lack of agreed-on operational definitions, Federal and State Governments are considering mandating case management services for a variety of human service target populations, including recipients of Medicare and Medicaid, high-risk recipients of Aid to Families with Dependent Children, AIDS victims, elderly persons, and persons with mental illness and mental retardation (Ashley 1988). Government-funded demonstrations, designed to evaluate the utility of case management with these at-risk populations, are under way in many localities. For example, many of the National Institute on Alcohol Abuse and Alcoholism-National Institute on Drug Abuse (NIDA) Community Demonstration Projects for Alcohol and Drug Treatment of Homeless Individuals have employed case management (Argeriou and McCarty 1990).

This chapter briefly reviews the conduct of case management in drug abuse treatment by, first, defining case management and discussing prevalent models. Second, barriers to the development of case management in drug abuse treatment are discussed. Finally, challenges faced in the design and implementation of field research on case management are examined.

DEFINING CASE MANAGEMENT

Many commentators have noted, and most experts agree, that traditional social casework is the predecessor of case management (Schilling et al. 1988). The functions of social casework typically include (Johnson and Rubin 1983):

the development of new resource systems to meet the needs of people, the establishment of initial linkages between people and resource systems and between resources themselves to make them accessible to each other, the facilitation and improvement of interaction between people within resource systems to promote the effective and humane operation of these systems and to make them responsive to people's needs, and the assistance to people to develop and effectively utilize their own internal problem solving and coping resources.

Several themes are apparent in the definition of social casework. Depending on its philosophy and implementation, social casework emphasizes the development of new resources, linkages to existing service agencies, coordination of care, advocacy, and teaching. Casework typically includes increasing the individual's self-reliance and independence as well as coordinating and integrating care. To formulate a case plan properly, caseworkers need to consider the client's personality, family and other relationships, the applicable service agencies and their various policies and procedures, and pertinent legal issues. This information is then integrated into a rational and practical plan, which is implemented, and the results are monitored (Leiby 1978).

Those aspects of casework that focus on coordinating and linking service delivery are the ones that most typify case management interventions. Providing continuity of care may be the single most important rationale for using case management.

Within the mental health field, Bachrach (1978, 1981) defines continuity of care as "a process involving the orderly, uninterrupted movement of patients among the diverse elements of the service delivery system." The "service delivery system" was broadly conceived to include not just treatment for the presenting disorder (in this case mental illness) but also access to other service systems designed to provide poor people with subsistence and services (including housing, food, jobs and job training, medical services, legal services, and the like). In addition, to the extent that mental health clients are also clients of other service agencies (including welfare, criminal justice, alcohol and other

drug treatment), continuity of care involves efforts to coordinate with the staffs providing services within those agencies. The dimensions of continuity of care as conceptualized by Bachrach (1981) are:

- Longitudinal: Treatment parallels patient's progress, even though the specific site and caregivers may change.
- Individualized: Care is planned with and for the patient and family.
- Comprehensive in nature.
- Flexible: Pressures to progress or move forward along a continuum are relieved. Service flow corresponds to changes in the patient's needs.
- Personal: Relationship.
- Accessible: Barriers are removed or reduced.
- Cohesive: Link among all service providers.

Note that flexibility of and adaptability to the individual are hallmarks of the case management approach focused on continuity of care. These aspects are considered to be a strength of the case management approach and yet account for some of the difficulty in arriving at a consensus on the operational definition of case management. According to Bachrach (1981), some of the barriers to continuous care that provoked the development of the case management concept are:

- Absence of mandate
- Time lags between services
- Inadequate tracking and followup
- Geographical impediments, especially in rural areas
- Budgetary constraints
- Personnel shortages
- "Quantitative overload of care system" (i.e., inadequate resources to meet the need)
- Failure to fully appreciate the complexities of a problem

Much case management in human service settings is provided to a vulnerable population with multiple needs, believed to be unable (or unwilling) to negotiate their care among multiple service providers. The case manager serves as sole agent (Kirk and Therrien 1975), responsible for coordinating care to meet the needs of the individual client. Depending on the particular "incarnation" of case management, the case manager may be expected to provide the bulk of services or may be responsible for ensuring that the client is receiving services from a variety of agencies. Regardless, the case manager is the one (maybe the only one) who views the individual comprehensively and addresses the individual's needs from this perspective. Case management is believed to be especially useful in the context of treating severe and complex problems that involve multiple service agencies.

Although there is widespread acceptance of case management, it remains a loosely defined service that is less understood than one might expect, given its popularity. This is because case management lends itself to many adaptations to achieve a variety of objectives and because it is not the province of one discipline or service field. Several authors have suggested definitions of case management. Most definitions include a discussion of some combination of its purposes, functions, client needs, and the context in which case management occurs. Perhaps the most useful yet simple enumeration of the goals of case management was proposed by Intagliata (1982):

- Enhancing continuity of care (the most fundamental goal)
- Cross-sectional (at any time, the services provided to an individual are comprehensive and coordinated)
- Longitudinal (services continue over time, responsive to ongoing changes in the person's needs)
- Enhancing accessibility: assist in overcoming the administrative barriers (multiple categorical programs, each with its own eligibility criteria, regulations, policies, procedures)
- Enhancing accountability: designation of a single point of responsibility for the overall effect of the system when multiple agencies are involved in meeting a client's needs (sole agency)
- Enhancing efficiency: increasing the likelihood that clients will receive the right services, in proper sequence, and in a timely fashion; may or may not result in cost savings

Controlling costs is another important goal in many case management applications. Costs can be controlled by providing the least costly services necessary, either by substituting less costly for more costly services, by decreasing duplication of services, or by denying high-cost services deemed to be of little benefit.

Case managers engage in discrete interventions to achieve these goals. Another way to define case management is by its functions—the discrete groupings of activities engaged in by case managers. There is remarkable agreement among professionals and across fields on the basic functions of case management. As articulated by the Joint Commission on the Accreditation of Hospitals (1979), these functions are (1) assessment: determining an individual's current and potential strengths, weaknesses, and needs; (2) planning: developing a specific service plan for each individual, with provisions for day, evening, and night linkages to needed functions; (3) linking: referring or transferring individuals to all required services in the formal and informal caregiving systems; (4) monitoring: continuous evaluation of individual progress; and (5) advocacy: interceding on behalf of an individual to ensure equity, both in the specific case and for any larger group or class to which the individual might belong. To these can be added identification and outreach in recognition that many case management programs attempt to enroll clients not using customary services. These six key functions have been widely accepted (Phillips et al. 1988; Levine and Fleming 1987; Ontario Ministry of Health 1985; Austin 1983; Schwartz et al. 1982; Lamb 1980; Marshman 1978; Agranoff 1977). Most functions identified by other authors are either modifications of these primary functions or could be characterized as additional functions, such as direct service provision, crisis intervention, system advocacy, and resource development.

Functions describe *what* case managers do. Willenbring and colleagues (1991) have proposed that the enumeration of functions does not sufficiently differentiate among case management programs. Dimensions or operational features indicate *how* case management functions are delivered. Table 1 outlines some of the dimensional characteristics of case management, giving examples of the ends of the continua.

The authors propose that a typology or categorization system can be developed by looking at the interaction among the functions and dimensions across programs. This approach could be used to compare programs without regard to the particular conceptual or philosophical framework on which the program is based. This typology is a work in progress, but agreement on a common set of functions and dimensional characteristics would facilitate understanding how, why, and for whom a particular case management approach might be expected to work.

TABLE 1. *Dimensional characteristics of case management*

Characteristic	Pole A	Pole B
Duration	Indefinite (defined by client needs)	Time limited
Intensity		
Frequency of contact	Frequent (daily contact)	Infrequent (quarterly contact)
Staff ratio	High (1:10)	Low (1:75)
Focus of services	Broad, inclusive	Narrow, exclusive
Availability	24 hours	Office hours
Site of service	In vivo	Office only
Consumer direction	Consumer directed	Professionally directed
Advocacy	Advocates for client (to gain access to services)	Gatekeeper for system (finds alternatives to requested services)
CM training	Advanced professional degrees	On-the-job training
CM authority	Broad authority, administrative control	No authority, persuasion only
Team structure	Full team mode: All CMs share all clients	Primary CM with individual caseload

CM=case manager

MODELS OF CASE MANAGEMENT

The goal of creating a typology useful across fields is to provide a categorization system that will facilitate program planning, implementation, and evaluation. In particular, it is necessary to categorize case management programs accurately so that the results of research studies can be generalized to other programs. A multiplicity of models have been proposed (Ross 1980; Merrill 1985; Robinson and Bergman 1989), and each makes a contribution to understanding case management within its respective field. However, none has

received uniform acceptance within a field, nor are any generic enough to be useful across human service fields.

In this short discussion, rather than enumerating the variety of models, a few of the functions and dimensions mentioned earlier are useful in making broadbrush discriminations. For example, one of the most important in the mental health field has been the differentiation between case management designed to *deliver* mental health and social support services and case management designed to *coordinate* the provision of those services. In one of the most well-researched applications of case management across the fields, the Program for Assertive Community Treatment (PACT) model of case management combines case management and direct mental health treatment within one case management program characterized by intensity of service, very low caseloads, and multidisciplinary team structure (Stein and Test 1980). Studies have found the PACT model of case management, in which direct service delivery is a primary function, to be effective in meeting its goals (Morlock et al. 1988), and replications of the model have also found favorable results for the most difficult, most needy clients (Mulder 1985; Bond et al. 1988; Hoult et al. 1983). This model of case management is often targeted to individuals who have chronic mental disabilities and do not make use of the mental health treatment system or use it dysfunctionally—that is, by preferring emergency room, detoxification, and acute psychiatric care to long-term treatment and rehabilitative services. Emergency rooms and acute care without followup have not been found to be effective mechanisms to deliver the care these individuals need.

By contrast, many applications of case management have focused on the coordination of services provided by other treatment and service agencies, with minimal, if any, direct service provided by case managers. Although this model of case management is more dominant, fewer empirically sound research studies have focused on the coordination or linkage model of case management. These applications of case management (with higher caseloads and less direct service provision) showed mixed results, with some case management programs improving quality of life without interrupting patterns of psychiatric hospitalization and others showing, for instance, both increased use of services and increased cost without any concomitant improvement in the lives of clients (Morlock et al. 1988).

Another simple (or simplistic) discrimination among case management models is the differentiation between case management programs primarily aimed at *facilitating access* to services from those aimed at *gatekeeping* or managing access to services to increase the use of cost-effective alternatives to expensive services. The facilitator model predominates in the public sector

(among social service and alcohol and other drug and mental health agencies). The primary goal of facilitator case management is to increase the likelihood that individuals will receive the right services, in proper sequence, and in a timely fashion. To achieve this, the case manager plans a comprehensive service package and negotiates barriers that prevent clients from accessing needed services. Cost savings may or may not be an explicit goal but may be expected as the case manager facilitates better access to cost-effective alternatives, achieves better coordination (and thus less duplication of services across agencies), reduces utilization of more expensive and less effective emergency room and acute inpatient services, and diverts clients from detoxification and jail admissions.

Case managers used as gatekeepers to produce cost savings are predominantly seen in the context of medical services and care for elderly people and in some private agencies in the other fields. These gatekeepers can produce cost savings by managing care, including substituting less costly, more appropriate services and sometimes simply by not authorizing higher cost services. Rather than facilitating access, gatekeepers must restrict access to control utilization and thereby costs. The ability of gatekeeper case managers to create savings depends on the availability of appropriate cost-effective alternatives, case manager authority within the care system, and case manager ability to control financing for the care they deem appropriate. Specific strategies designed to avoid use of high-cost services must be built into the program, along with proper incentives for the case managers. One of the primary barriers to this kind of program is the absence of alternative services.

Finally, in addition to the treatment/linkage dichotomy discussed above, the authors predict that at least three of the other dimensions enumerated in table 1 are likely to be important in discriminating among types of case management. These are team structure, intensity (caseload size), and case management training (credentials). It is important that these dimensions of the program be adequately described and documented in evaluations of case management. Because the focus of most evaluations is on the question, "Does it work?," it is important to know what "it" is.

For example, many, if not most, case management programs describe themselves as employing a team structure, but team structures vary considerably. In some programs, all case managers on the team are interchangeable and serve the total group of clients. Other programs consist of multidisciplinary teams where each professional provides specific services to the clients assigned to the team (e.g., nurses dispense disulfiram [Antabuse], social workers complete entitlement paperwork). In still others,

"teams" of individual case managers carry individual caseloads but provide backup assistance to one another. These differences may be papered over by the use of the descriptor "team," yet the specific configuration may be critical to the program's success and, thus, to its replicability.

BARRIERS TO COORDINATION USING CASE MANAGEMENT

There are significant barriers to the coordination of services for drug-dependent individuals. These barriers can be characterized as those most amenable to intervention at the client level and those barriers that represent larger structural or financial impediments. The former include the fact that service agencies often do not recognize the authority of a case manager, that agencies differ in practice and philosophy of drug (and other) treatment, and that most agencies feel the need to make treatment decisions about the services required by a client under their care. Case management directly confronts territoriality among services agencies.

Among the barriers encountered and described in the few limited studies of case management in the alcohol and other drug field, communication problems and problems dealing with inflexible agency admission requirements predominate. Within the alcohol and other drug treatment field, perhaps more dramatically than in other human service fields, philosophical conflicts about the nature of addiction and the goals of treatment increase the barriers that case managers face in finding services for their clients. Many agencies simply refuse to deal with clients with multiple or complex problems. If stabilization rather than abstinence is the case manager's goal, treatment programs may refuse their clients entry. The end result is that case managers expend much time and energy finding service providers within the drug treatment system. In addition, the stigma associated with drug dependence makes access to other human service agencies difficult. The philosophical debate over whether drug dependence is a choice (and thus deserves consequences) or is a disease (and thus deserves treatment), as well as the association of drug dependence with criminality, can be used as rationales for denial of services. Considerable advocacy may be necessary to see that the more difficult and deteriorated client is served, and the case manager on the front lines will have to confront this directly. This confrontation may have a positive effect of its own, by going against the pessimism often identified with alcohol and other drug dependence (Willenbring et al. 1990).

The level of optimism that the case manager has about the value of specific interventions (or the positive nature of any intervention) is influenced by the case manager's training and expertise. There are problems with "naive" case managers who are either too pessimistic or too optimistic, potentially impairing

their credibility with other providers and thus their ability to link clients to services.

It has also been observed that the popularity of case management may be explained by the desire of agencies and bureaucracies not to disturb the status quo. Kane and associates (1991), describing case management as "this ubiquitous, rapidly growing but poorly defined phenomena," point out that "its short-run political advantage is that it can be overlaid on existing systems of health and human services without requiring basic organizational change." This has been the frustration of many line workers—that they are assigned to the impossible task of making organizations behave differently toward their clients or making and implementing rational care plans within irrational systems of care.

CHALLENGES TO RESEARCH ON CASE MANAGEMENT

Many have commented that the popularity of case management is out of proportion to evidence of its effectiveness as an intervention. Only recently has the implementation of case management programs in the human service fields been accompanied by research about its effectiveness. Although evaluation in the mental health field has been developed further than in most others, the findings there are neither comprehensive nor widely generalizable. Although there is general agreement that case management serves a set of functions, there is no consensus about the operational definition of those functions. Until the past few years, most program evaluations did not even measure the behavior of case managers, leaving unanswered the question of how case management is carried out in individual programs.

In discussing the state of the art in drug abuse treatment research, Ball and Ross (1991) have referred to this phenomena as the "black box" in research on treatment interventions. Ball and Ross attribute the phrase "black box" to Lipton and Appel and, quoting from their contribution to a 1984 NIDA monograph on drug abuse treatment evaluation (Lipton and Appel 1984), state:

One concern expressed repeatedly had been that treatment is largely a "black box." The people, events, and interactions subsumed by such labels as "therapy," "counseling," "refer for services," and "remediation" remain largely undescribed in drug programs. As a result, variations in delivery and efficacy, which are crucial to treatment evaluation, are also unspecified.

Again, quoting other colleagues (Gottheil et al. 1981), Ball and Ross refer to a "pervasive lack of knowledge about treatment factors":

There are also many treatment factors that may be related to outcome, although few have been identified. It is not enough to know that more treatment is better than less without knowing more about the effective components of treatment . . . there is an even greater need for basic and systematic description, classifications, and measurements of treatment factors than of patient characteristics.

Ball and Ross theorize that the black box continues to exist for both practical and empirical reasons. First, with the emphasis of drug abuse research on pharmacology, there was a lack of interest in treatment research, especially program evaluation in contrast to the "hard sciences." Field studies of drug abuse programs are costly and difficult compared with laboratory research. Second, Ball and Ross (1991) point to methodological impediments to the study of treatment programs. They propose a schema for evaluation of treatment programs that would focus equally on four domains: addict patients, programs, services provided, and patient outcomes.

Finney and Moos (1989), in their discussion of design of research on alcohol and other drug treatment, talk about the decisions that researchers face in designing evaluations. Allowing that researchers usually choose experimental designs for their methodological superiority, they state that there is nothing inherent in experimental designs that precludes an indepth evaluation of treatment itself; however, evaluators often find themselves short of funds to undertake an exploration of treatment. The majority of the resources are usually committed to "the logistical demands of implementing and monitoring a true experiment in a field setting." Nevertheless, Finney and Moos report an expansion of the "traditional" black box approach to evaluating treatment programs, including a new emphasis among treatment providers and researchers on (1) implementation analysis, (2) review of the amounts and types of specific services received by each client in the program, and (3) the life context factors that can mediate the effects of the program on clients (Finney and Moos 1989).

Both Graham and Birchmore-Timney (1989) in the alcohol and other drug field and Brekke (1987) in the mental health field have focused the attention of evaluators on the need to specify the treatment program, in this instance, case management, beyond general descriptions. Focusing on the issue of replicability, Graham and Birchmore-Timney assert that the focus on experimental design in evaluation is too heavyhanded at this stage of case

management development. They question the value of adherence to strict experimental designs when the intervention is as vaguely designed as are many case management interventions. Rather than choosing sides between the "academically funded evaluators" who continue to use outcome-oriented research and "applied evaluators" who have abandoned effectiveness questions in favor of evaluations more focused on program improvement, Graham and Birchmore-Timney advocate that "the appropriate use of the experimental method requires a reorientation away from administratively defined 'programs' to operationally defined and evaluable program components" (Graham and Birchmore-Timney 1989). Brekke (1987) has described a method for specifying these program components in an application of case management in the mental health field. As described in more detail below, program implementation monitoring is an important part of an overall attempt to specify the intervention being tested.

IF X IS EFFECTIVE, WHAT IS X?

Much of the effort to improve research design in the human service field is focused on evaluation of the client or recipient of services. Research design utilizing the randomized clinical experiment has become the "gold standard," some have argued, to the exclusion of attention to questions other than effectiveness. Ball and Ross (1991) have pointed to an additional problem in using the results of such research—the evaluation of poorly defined interventions is not particularly useful to the field because the findings have little generalizability and the interventions are difficult to replicate. To improve the state of the art in evaluation of case management interventions, attention to four aspects of evaluation are necessary. (The order of discussion is not meant to imply an order of implementation of these aspects of evaluation.)

Precise Description of the Intervention

As many commentators have pointed out, there is no one thing called case management (Bachrach 1989); rather, there are many things called case management. Rather than attempting to study a modality, it is important that individual programs within that modality are studied. The first step is to generate a precise description of the case management intervention. Ball and Ross (1991) advocate that the program be broken down into its operational components and then each component described carefully. For example, within a case management program, "outreach" may be a program component encompassing specific activities.

The original proposal for a program is a place to start but is often unreliable as a description of the implemented program. In addition, experience teaches that

service providers, often caught up in the implementation of an innovative program, are not keen observers of the programs they implement. Ball and Ross (1991) recommend that outside observers (more than one) interview the program administrators, staff, and patients and observe and review records. The requirement of multiple observers is supported by those advocating methods to increase the rigor of qualitative research methods (Silverman et al. 1990). Another method is to have an outside observer collect qualitative data on the program (interviews and observation) and prepare a "program manual" in an iterative process with the program staff. This method asks staff members to describe the program in such detail as necessary to replicate the program and, it is hoped, focus their attention away from articulating philosophy and toward describing activities and functions.

A precise description of the program is the beginning but is not enough. A qualitative description based on observation or interviews will be enhanced by a more quantitative picture of the program. Measurement of time spent performing discrete activities is one way to quantify program description, and Brekke's (1987, 1990) program implementation monitoring (described below) is one method.

Implementation Analysis

This aspect of program evaluation focuses on the question, Does the intervention that is described actually get implemented? Cargonne (1983), in a comparison of case management activity for the Texas Department of Mental Health and Mental Retardation, has observed, "a case management system that has not been designed to accommodate the existing contextual variables (for example, geographic inaccessibility and inadequate resources) may be implicitly redesigned by the case managers to fit these demands." For example, a case management program may be explicitly designed to coordinate care. Case managers, faced with a lack of appropriate treatment facilities, begin to provide care to their clients, rather than to coordinate care, resulting in a program completely different from that intended. Because of the possibility that case managers will make significant alterations in the program (unrecognized by management staff) or that program managers will allow program interventions to evolve over time, it is important to monitor program implementation.

Brekke (1987, 1990) has proposed a method for "model-guided" monitoring of program implementation that has both descriptive and evaluative functions (Brekke 1990):

Descriptively they [implementation monitoring evaluations] result in an empirical profile of the types, or major components, of service delivered in a program. When data are collected over time they can also provide a profile of the longitudinal form of service delivery. Other program processes can also be examined.

This method of program implementation monitoring makes use of a daily contact log, which is a self-report checklist used to collect information about case management interventions. Brekke (1987) notes that such instruments are useful only to the degree that they are reliable and presents data on the psychometric properties of the instrument. Brekke also achieved compliance with the reporting on the daily contact log by agreeing to feed information back to the program case managers on a regular basis.

Implementation Timetable

The next two aspects of program evaluation address the concern that there may be changes in the environment that affect the intervention. Creating an implementation timetable by recording dates of specific alterations in the program or in the program's environment is useful to help describe the context for the program's development and explain changes in client outcomes. For example, if programs are evolving and a major new component is added to the ongoing program, it would be important to note such events in a chronological sequence. Other important events include major staff changes, changes in administration in the host agency, temporary increases in case manager caseloads due to intermittent turnover, and the like. In addition, important events in the environment can be expected to have an impact on program operations, including, for example, changes in the organization and financing of alcohol and other drug abuse services and passage of laws concerning the use of alcohol and other drugs (e.g., decriminalization of public inebriety, mandatory sentencing laws for drug offenses).

Describing the Environment in Which the Program Functions

Case management programs do not exist in a vacuum. Although poor coordination of services is often blamed for the discontinuity that case management programs address, these problems equally may be the result of insufficient resources or inappropriate services, problems usually not under the control of case management programs. As Morlock and colleagues (1988) noted in a review of case management research in the mental health field, the effectiveness of case management may have more to do with the environment than with the functions of the program per se. Because this is true, it is

important to document the environment in which programs operate. Issues such as the adequacy or inadequacy of the service system, the support of the host agency, and changes in the service system over time that affect the operation of the program should be fully described. Changes in the service environment explain why in some experiments the differences between the control and experimental groups narrow over time. If agencies serving clients in the "usual care" system begin to adopt programs that look more like experimental case management interventions, it is unlikely that the experimental program will create large enough effects to be found statistically significant in small samples of clients.

POTENTIAL PROBLEMS IN FIELD RESEARCH AND MEASUREMENT

Finally, there are problems in field research and measurement that seem to be common among demonstration research programs yet have not been explicated fully in the literature. Addressing these in the design and implementation of the demonstration and evaluation of case management programs will make research in this area stronger and the findings ultimately more useful. Under the heading "problems in field research," the authors suggest attention to three questions: (1) Is there a significant difference between the experimental and control interventions? (2) Is there a single experimental intervention, and does it stay stable over time? (3) When is the intervention mature enough to begin client data collection?

The first question is often left unaddressed by those who propose case management demonstration programs. The intuitive assumption is that the experimental condition is different and superior to the control condition. One example in case management evaluation illustrates this problem. In a comparison of case management vs. usual care in bringing alcohol and other drug abuse services to homeless individuals, the outcomes of homeless clients receiving case management services plus shelter were compared with those receiving shelter services alone. What was not fully appreciated at the start of the demonstration was the impact of the shelter "coordinators." These staff members had typically been associated with the shelter and the larger service system for some time and had developed extended referral networks among the substance abuse treatment and other providers. Several case managers working in the experimental program, by contrast, were new to the system of care and new to case management as an intervention. It was not surprising, then, that some measures of usual care would show better coordination of services by shelter coordinators than by case managers. In addition, sometimes rivalry develops between the new intervention and the old program so that control condition staff members either intensify or change what they are doing to compete with the new intervention (the so-called "John Henry" effect).

The next question has to do with the fidelity of the intervention. This is actually a two-part question. First, is there a single experimental intervention? That is, are all the case managers doing the same thing? Often, experimental programs are based on broad notions of the functions of case management, and those functions are not operationally defined. Case managers bring their own professional and experiential backgrounds to the task and, in the absence of precise delineation of activities, have a tendency to adjust the program model to their experience, to what they are comfortable doing, or to their unique understanding of what they are supposed to be doing. These problems can be addressed by continual supervision of the implementation of the program. Developing a program manual will help concretize the intervention and provide a standard against which their activities can be measured. The second part of the question, which has already been mentioned, concerns the tendency for there to be "drift" of the interventions toward one another. The control condition becomes more like the experimental condition (discussed above) or the experimental becomes more like the control condition as case managers settle into their jobs and the initial enthusiasm for a new project gives way to the tendency to standardize and bureaucratize human service programs.

The third question—When is the intervention mature enough to begin client data collection?—is often ignored because demonstration program funding is most often limited to 2 or 3 years. Programs do not have the luxury of an extended startup time and must enroll clients immediately into the evaluation. Early enrollment ensures that there will be a sufficient number of clients for the statistical analyses, but it ignores the fact that innovative programs often evolve in the early stages of their implementation. Later in the demonstration, clients could be receiving a different intervention than clients early in the demonstration if startup problems delay implementation or if the program goes through successive approximations before it finally settles into a mature program. These problems seem to be the norm rather than the exception in demonstration programs.

Potential Problems in Measurement

One of the first issues in evaluating case management is how to measure a case management intervention. Part of the problem is that case management is difficult to define, and the functions are often difficult to operationalize.

Most evaluation research uses some kind of time logging system on either a daily, weekly, or episodic sampling basis. The forms used are most often designed by researchers and not by the people who do case management. Case managers often complain that they do not provide an accurate representation of what case managers do. Also, unfortunately, few of these instruments have been evaluated as to their validity or reliability.

To get precise information to characterize what case managers do, researchers often create forms that require the case manager to differentiate among activities in a wide variety of categories and report time spent in small intervals. Researchers often believe that having a variety of possible service categories will increase precision. Case managers, however, may find too broad an array bewildering, and the lack of precision in the definition of service activities (and consistency in reporting across case managers) raises questions about the reliability of the data. Some have suggested that the professional and experiential background of case managers affects their choice of certain service categories over others more than a substantive difference in what they provide to clients. These problems, along with the necessity of reporting on small intervals of time, creates a paperwork burden that often is not balanced by any clinical or administrative utility of the data. In rare instances, program evaluators have found ways to make the data useful to the program as well as to the evaluation (Brekke 1987), increasing the likelihood of compliance and accuracy. Some balancing of the need for information with the demands of the paperwork needs to be struck or the reliability of the data is in question. In designing the data collection strategy, the careful evaluator will consider (1) the difference between what he or she *needs* to know and *wants* to know and (2) the difference between what he or she needs to get from the case manager and what could be gotten (though possibly not as easily or reliably) from another source.

Another cause of frustration is measuring usual care or the control condition. Often, the experimental program is the only one receiving the enhanced funding, so that usual care providers have less of a stake in the demonstration and its evaluation. Having the staff of the control condition use the same logging forms as the case managers would be optimal; however, management information systems and reviews of institutional records often are used as necessary substitutes. Also, although it may not be possible to have control condition providers furnish the same level of detail, it may be possible to design an abbreviated questionnaire asking a few general questions about what services the control clients need (at some point) and then have received (or not received) at a later point.

As Kane and colleagues (1991) have pointed out, "case management is hard to extricate from the services being managed and, with few exceptions, this disentangling had not been attempted." Although Kane and colleagues had other issues in mind when they made this observation, it is important to evaluation that all services the clients receive are recorded, not just the services provided by case managers. In fact, all services for both the experimental and control condition clients should be detailed to make sure that effects attributed to case management are not more attributable to other services being provided

in connection with case management. To the extent that the evaluation can be said to be looking for the effect of continuity of care (caused by case management) rather than for the effect of an intervention (case management), the interpretation of client data is perhaps made more challenging.

CONCLUSION

Although research to date on case management suggests that it may be an effective intervention, basic questions concerning case management in general and its specific application to drug treatment remain to be answered. These include questions about target populations; goals of case management; and case management models (functions and dimensions) and their relationship to population, goals, and outcome. Although research on case management in drug treatment is in its infancy, much can be learned from the work over the past two decades in other fields.

It is very likely that case management will be utilized more frequently as a component of the drug treatment system. The challenge is to understand the most effective and efficient way to use such an intervention. Researchers can no longer afford to maintain the black box approach to treatment effectiveness evaluation. Nor can practitioners continue to rely so heavily on intuitive beliefs about what works.

REFERENCES

- Agranoff, R. Services integration. In: Anderson, W.; Frieden, B.; and Murphy, M., eds. *Managing Human Services*. Washington, DC: International City Management Association, 1977.
- Argeriou, M., and McCarty, D., eds. *Treating Alcoholism and Drug Abuse Among Homeless Men and Women: Nine Community Demonstration Grants*. (Special issue). *Alcohol Treat Q* 7:1-164, 1990.
- Ashley, A. Case management: The need to define goals. *Hosp Community Psychiatry* 39(5):499-500, 1988.
- Austin, C. Case management in long-term care: Options and opportunities. *Health Soc Work* 8:16-30, 1983.
- Bachrach, L. A conceptual approach to deinstitutionalization. *Hosp Community Psychiatry* 29(9):573-578, 1978.
- Bachrach, L. Continuity of care for chronic mental patients: A conceptual analysis. *Am J Psychiatry* 138(11):1449-1455, 1981.
- Bachrach, L. Case management: Toward a shared definition. *Hosp Community Psychiatry* 40(9):883-884, 1989.
- Ball, J., and Ross, A. *The Effectiveness of Methadone Maintenance Treatment: Patients, Programs, Services, and Outcome*. New York: Springer-Verlag, 1991.

- Bond, G.; Miller, R.; Krumwied, R.; and Ward, R. Assertive case management in three CMHCs: A controlled study. *Hosp Community Psychiatry* 39:411-418, 1988.
- Brekke, J. The model-guided method of monitoring program implementation. *Evaluation Rev* 11(3):281-299, 1987.
- Brekke, J. Program implementation analysis. In: Morrissey, J. and Dennis, D., eds. *Homelessness and Mental Illness: Toward a Next Generation of Research Studies, Proceedings of an NIMH-sponsored Conference*. Rockville, MD: National Institute of Mental Health, Office of Programs for the Homeless Mentally Ill, 1990.
- Cargonne, P. "A Comparison of Case Management Activity Within the Texas Department of Mental Health and Mental Retardation." Unpublished report submitted to the Texas Department of Mental Health and Mental Retardation. Austin, TX, 1983.
- Finney, J., and Moos, R. Theory and method in treatment evaluation. *Evaluation Program Planning* 12:307-316, 1989.
- Gottheil, E.; McLellan, A.; and Druley, K. Reasonable and unreasonable methodological standards for the evaluation of alcoholism treatment. In: *Matching Patient Needs and Treatment Methods in Alcoholism and Drug Abuse*. Springfield, IL: Charles C Thomas, 1981.
- Graham, K., and Birchmore-Timney, C. The problem of replicability in program evaluation. *Evaluation Program Planning* 12:179-187, 1989.
- Hoult, J.; Reynolds, I.; Charbonneau-Powis, P.; Weekes, P.; and Briggs, J. Psychiatric hospitalization versus community treatment: The results of a randomized trial. *Aust N Z J Psychiatry* 17:160-167, 1983.
- Intagliata, J. Improving the quality of community care for the chronically mentally disabled: The role of case management. *Schizophr Bull* 8(4):655-674, 1982.
- Johnson, P., and Rubin, A. Case management in mental health: A social work domain? *Soc Work* 1:49-55, 1983.
- Joint Commission on Accreditation of Hospitals. *Principles for Accreditation of Community Mental Health Service Programs*. Chicago: Joint Commission on Accreditation of Hospitals, 1979.
- Kane, R.; Penrod, J.; Davidson, G.; and Moscovice, I. What cost case management in long-term care. *Soc Service Rev* 65(2):281-303, 1991.
- Kirk, S., and Therrien, M. Community mental health myths and the fate of former hospitalized patients. *Psychiatry* 38:209-217, 1975.
- Lamb, H. Therapist-case managers: More than brokers of services. *Hosp Community Psychiatry* 31(11):762-764, 1980.
- Leiby, J. *A History of Social Welfare and Social Work in the United States*. New York: Columbia University Press, 1978.
- Levine, I., and Fleming, M. "Issues in Case Management." Unpublished paper. College Park, MD: University of Maryland Center of Rehabilitation and Manpower Services, 1987.

- Lipton, D., and Appel, P. The state perspective. In: Tims, F.M., and Ludford, J.P., eds. *RAUS: Drug Abuse Treatment Evaluation: Strategies, Progress, and Prospects*. National Institute on Drug Abuse Research Monograph Series 51. DHHS Pub. No. (ADM)86-1329. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1984. pp. 151-167.
- Marshman, J. *The Treatment of Alcoholics: An Ontario Perspective*. Report of the Task Force on Treatment Services for Alcoholics. Toronto: Addiction Research Foundation, 1978.
- Merrill, J. Defining case management. *Bus Health* 2(8):5-10, 1985.
- Morlock, L.; Taube, C.; and Ross, A. "Alternatives for Case Management of the CMI in Baltimore City: Implications for Cost and Impact." Unpublished report. Baltimore, MD: The Johns Hopkins University, Center on Organization and Financing of Care for the Severely Mentally Ill, 1988.
- Mulder, R. "Evaluation of the Harbinger Program 1982-1985." Unpublished report, 1985.
- Ontario Ministry of Health. *Addictions Services Policy*. Toronto, Ontario: Ontario Ministry of Health, 1985.
- Phillips, B.; Kemper, P.; and Applebaum, R. The evaluation of the national long term card demonstration. 4: Case management under Channeling. *Health Serv Res* 23(1):67-81, 1988.
- Robinson, G., and Bergman, G. "Choices in Case Management: A Review of Current Knowledge and Practice for Mental Health Programs." Unpublished report. Washington, DC: Policy Resources Inc., 1989.
- Ross, H. "Proceedings of the Conference on the Evaluation of Case Management for Persons Who Are Homeless and Mentally Ill: Vol. I. Unpublished report. Washington, DC: Cosmos Corporation, 1980.
- Schilling, R.; Schinke, S.; and Weatherly, R. Service trends in a conservative era: Social workers rediscover the past. *Soc Work* 43(1):5-9, 1988.
- Schwartz, S.; Goldman, H.; and Churgin, S. Case management for the chronically mentally ill: Models and dimensions. *Hosp Community Psychiatry* 33(12):1006-1009, 1982.
- Silverman, M.; Ricci, E.; and Gunter, M. Strategies for increasing the rigor of qualitative methods in evaluation of health care programs. *Evaluation Rev* 14(1):57-74, 1990.
- Stein, L., and Test, M. Alternatives to mental hospital treatment. I. Conceptual model, treatment program, and clinical evaluation. *Arch Gen Psychiatry* 37:392-397, 1980.
- Willenbring, M.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, Homeless Demonstration and Evaluation Branch, February 1991.

Willenbring, M.; Whelan, J.; Dahlquist, J.; and O'Neil, M. Community treatment of the chronic public inebriate. I: Implementation. *Alcohol Treat Q* 7(2):79-97, 1990.

ACKNOWLEDGMENTS

Anthony F. Lehman, M.D., M.P.H., and Howard H. Goldman, M.D., Ph.D., director and codirector, respectively, of the Center for Mental Health Services Research, commented on an earlier draft of this chapter.

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Managed Care and Case Management of Substance Abuse Treatment

Albert Woodward

INTRODUCTION

Managed care has gained increasing attention in the health care field, including substance abuse treatment. Findings from health services research on managed care, for health care in general and for substance abuse in particular, will have relevance to the evaluation of case management of persons with substance abuse problems.

DEFINITIONS OF MANAGED CARE

Managed care is a new concept widely discussed by health service researchers and increasingly used by health care payers to control health care use and costs. No single, widely accepted definition of managed care exists. Four definitions obtained from a literature review share many similar elements but offer different perspectives on the concept.

A recent definition from an Institute of Medicine report, "Treating Drug Problems" (Gerstein and Harwood 1990, p. 286), may be the most comprehensive definition extant:

A variety of strategies generically known as managed care have been introduced to regulate more closely the use of health services by beneficiaries or, alternatively, the supply of health services to beneficiaries by providers. These strategies include prospective certification or preadmission review (PAR) of hospital stays, utilization review during or after discharge, the use of preferred providers, and specialized high-cost case management. PAR requires that patients receive prior approval of admission to a hospital from the insurer to be entitled to full reimbursement of costs. Utilization review involves midtreatment or even retrospective review by insurers (or their managed care

agents) of the "appropriateness" of services delivered, with denial of insurance reimbursement for unapproved services. Preferred providers often have contracts with the insurers about the level and nature of care to be delivered for a particular type of case. Under some contractual arrangements, managed care providers have explicit short-run financial (profit) incentives to reduce the utilization of health care services of beneficiaries under their supervision, although this arrangement is not true under fee-for-service contracts. Yet under fee-for-service contracts, a managed care contractor must eventually demonstrate success at controlling costs or risk losing the contract.

As detailed as this definition is, it is probably incomplete. The term "strategies" used in the definition includes case finding and case management services, financing arrangements, incentives, and provider organization, but it contains some ambiguities. The definition does not distinguish prepaid financing mechanisms such as health maintenance organizations (HMOs) and preferred provider organizations (PPOs) from the more loosely structured managed care providers. It does not distinguish "financial case management" and "clinical case management." One associates managed care with the term "case manager," although the two terms are distinct (Institute of Medicine 1990, p. 331). It is unclear from the definition whether managed care is a type of treatment, a form of financing, an approach to cost management, or a combination of these. Finally, the definition ignores differences between public- and private-sector managed care of drug treatment.

A second definition of managed care comes from a recent Congressional Budget Office (CBO) report (Langwell and Menke 1991, p. 37):

The term "managed care" encompasses a variety of interventions in health care delivery and financing. The major dimensions of managed care include:

- Reviewing and intervening in decisions about health services to be provided—either prospectively or retrospectively;
- Limiting or influencing patients' choice of providers; and
- Negotiating different payment terms with providers.

Another, briefer definition has similar key elements: "a set of techniques used by or for purchasers of health benefits to manage health care costs by influencing patient care decision-making through case-by-case assessment of the appropriateness of care prior to its provision" (Field and Gray 1989). Irving Muszynski, the past general counsel to the National Association of Addiction Treatment Providers (NAATP), offers a fourth definition: an arrangement that offers or covers specified health care benefits and that employs some or all the following financing and utilization review mechanisms: (1) negotiated fees or capitation rates for providers, (2) negotiated premiums, (3) preadmission testing for inpatient and outpatient services, (4) concurrent and retrospective reviews, (5) bill audits, (6) statistical analysis of frequency and duration of service use, (7) adjusted measurements of clinical outcomes, and (8) quality assurance review. The third and fourth definitions emphasize the key elements of managed care, but they neglect the details in the first definition.

The four definitions are presented as examples of how definitions can differ; they are not definitive but illustrative of the difficulty of defining the term completely. Perhaps the difficulty in defining the term is due to the pervasive and all-encompassing role of managed care in health insurance. Today, pure (as distinct from hybrid) indemnity or fee-for-service plans are the only health insurance organizations without some aspects of managed care. Every other derivative or hybrid has some level of managed care embedded in the plan, whether through the requirements of precertification and case management or through the complete or partial restriction to specific providers within a network. Managed care is sufficiently broad to include reimbursement of providers under fee-for-service, case rate, and capitation.

Most observers of health financing agree that managed care developed out of payers' concerns over rising health care costs, that is, as a cost-containment strategy. Mental and substance abuse disorders have been the fastest rising component of the health care premium (Frank et al. 1991). Employees with drug and other related problems have increasingly used health insurance coverage for substance abuse treatment. Since the advent of private health insurance, the industry has not considered behavior disorders as appropriate for coverage, but many employers have not shared this view. In the 1980s employers added coverage for substance abuse treatment benefits, only now to find them too costly (Jensen and Morrissey 1990). Managed care is one way that payers have tried to deal with these rapidly rising costs. In the private sector, health insurers frequently have "carved out" drug abuse (and alcohol and mental health) coverage benefits from general medical coverage and placed these benefits under managed care programs.

Managed care plans have several organizational forms or types. One is a private company serving as an external review agent or a broker of case management and preferred provider services for an insurer or a corporation. Others include a subsidiary of a health insurer or a personnel department of a company; each of these types may offer case finding and management, peer review, or preferred provider services. HMOs and PPOs provide managed health care and are viewed by some as managed care plans. In the public sector, the Civilian Health and Medical Program of the Uniformed Services and Medicaid have managed care programs, but they are not as common as in the private sector (Prottas and Handler 1987; Temple and Kron 1989; Fant and Pool 1990). Managed care plans claim to save health care costs by negotiating with providers for discounted rates on services and by limiting the treatment choices available (Institute of Medicine 1990, p. 435). Presumably, only unnecessary care is eliminated.

The managed care plan usually has the responsibility for establishing initial assessment and case management criteria for patients, recruiting and organizing participating providers or treatment programs, and negotiating contracts with payers and providers. Almost all managed care plans have pretreatment assessment, which assigns individuals seeking treatment to providers. Almost all also monitor the patient during treatment. This monitoring frequently goes beyond quality assurance, peer review, and second opinion techniques to involve the external reviewer of the primary counselor or physician.

In the private managed care of drug abuse treatment, the emergent leaders (such as American Biodyne, U.S. Behavioral Health, Preferred Health Care, and American Psych Management) offer full-risk arrangements in which they manage all aspects of a substance abuse case for a capitated rate. They include alcohol and other drugs under substance abuse coverage; often the problems and disorders caused by alcohol and other drugs are part of mental health coverage. These managed care companies preprocess or pay claims as part of their service, just like a traditional indemnity or fee-for-service health insurance plan. Also, these companies encompass managed mental health and substance abuse models that cut across provider reimbursement arrangements, from fee-for-service, to case rate, to capitation.

ISSUES IN MANAGED CARE

A literature review reveals many important issues in the managed care of drug treatment. Among them are the following:

- Perhaps the foremost issue is a perceived tension between appropriateness and quality of care vs. cost savings and cost-containment.

- Managed care seeks to influence both provider practices and patient behavior without sacrificing quality of care. How provider practices for drug treatment have changed under managed care, how financial incentives have influenced patterns of care, and how quality has been affected are unknown. Some observers claim that patients with drug problems may not fare as well under managed care programs as under more traditional programs because the greater scrutiny of managed care may increase patients' hesitancy to seek or continue treatment.
- No uniform, widely accepted, explicit, and relevant criteria for assigning and monitoring patients in drug treatment apparently exist. Also, what managed care does and what effect it has on outcomes and costs are not completely understood.
- The impacts of managed care on public- and private-sector drug treatment programs may be different, but these impacts are not well known.
- Finally, questions of cost benefits and savings from managed care cannot be answered: Is it cost-effective in comparison with traditional alternatives? To whom do the cost savings accrue—the employer, the insurer, the managed care firm, or the patient? Or does managed care lead to cost shifting to the consumer? How do public and private benefits derived from managed care coincide or conflict?

This list is more illustrative than exhaustive, and it is not meant to favor or reject managed care for substance abuse treatment. Each of these issues is discussed briefly in the following material.

Managed care has generated controversy about the tradeoffs among cost savings, access, and quality of care (for examples, see the October 1990 issue of *Hospital and Community Psychiatry* [Zusman 1990] and the fall 1990 issue of *The Journal of Mental Health Administration* [Docherty 1990]). This controversy has centered on limitations for inpatient or residential drug treatment. The Institute of Medicine report, "Treating Drug Problems" (Gerstein and Harwood 1990, p. 287), states:

As managed care strategies have matured, they have come under increasing scrutiny and criticism from alcohol and drug treatment providers following aggressive moves by managed care companies to cut the costs of treating drug and alcohol abuse. Taking cues (that is, preadmission and utilization review protocols) from the reviews by Saxe and colleagues (1983) and Miller and Hester (1986), which

focused on alcohol and not drug treatment, managed care reviewers have attempted to direct all drug clients away from the inpatient programs and toward outpatient services, because they are certifying shorter and shorter inpatient stays. This trend is viewed with particular alarm by employee assistance program (EAP) staff, chemical dependency programs, and therapeutic communities that have received accreditation and recognition but are increasingly being asked to shorten treatment plans in ways that defy all their therapeutic experience.

If managed care is in essence a policy to substitute outpatient care for inpatient care, questions arise regarding outcomes of treatment and cost shifts in the short and long run.

Substance abuse treatment providers express concern with the rapid development of managed care programs. A survey of 130 members of NAATP found that 90 percent of respondents had been exposed to managed care programs and that such care "... has created an array of problems for private providers, primarily with regard to the efforts of managed care systems to control their clients' general access to treatment and, for those clients who gain access, the level of treatment provided" (Kite 1989, p. 16). State legislatures are considering legislation to restrict managed care review; increasing numbers of doctors and patients are suing managed care companies (Freundenheim 1991).

Managed care seeks to direct or give incentives to providers to deliver care more cost-effectively than under more traditional approaches. Whether drug treatment providers have changed their practice under managed care is largely unknown. If they have, the influences of financial incentives on their practice is likewise unknown. Anecdotal evidence suggests that the implementation of managed care may have unintended and undesired effects on provider behavior. Some practitioners report spending so much time on the telephone with managed care staff that they find their time for client treatment is cut back. The profit margins of 28-day chemical dependency programs and the effect of managed care on their profitability and pricing of services are other unknowns.

Most persons with drug problems will need medical, psychological, pharmacological, or other ancillary treatment (Institute of Medicine 1990, pp. 56, 75). Health insurance has "... favored hospital-based inpatient stays over outpatient visits and continues to encourage the 'gold standard' medical model rather than more explicitly psychological or socially oriented treatment" (Institute of Medicine 1990, pp. 294-295). Almost no studies have been done on the effects of managed care on hospital drug abuse treatment.

Cutting costs by restricting access to types and amounts of service may lead to relapse among drug users. The substitution in a managed care program of outpatient care in those cases where inpatient care is more appropriate (Institute of Medicine 1990, p. 251; Frabotta 1989) may merely lead to patients' later relapses.

Persons with drug problems may be less accepting of managed care programs than the traditional approaches, but this has not been studied. In both public and private health insurance where there is choice among financing approaches, there is a question of whether persons with drug problems remain with fee-for-service approaches because they find these less threatening than managed care and other newer approaches. Also unknown is whether dependents, especially adolescents, get treated differently under managed care than primary insured persons. The questions cannot be answered with the existing health services research.

No uniform, widely accepted, explicit, and relevant criteria for managed care programs exists. Pretreatment assessment and patient monitoring apparently are not comprehensive for most programs. Also, apparently no uniform standards for admission criteria, length of stay, and treatment procedures exist. Providers and, to a lesser degree, employers and patients perceive managed care more as a cost-cutting mechanism than a treatment approach for matching a person to the most appropriate treatment regimen at each treatment stage (Institute of Medicine 1990, p. 476).

If a managed care program has implicit criteria (not publicly stated), outcomes and cost-effectiveness of care are almost impossible to evaluate. Because most managed care firms have not made their criteria public or reported their results in peer-reviewed journals, no consensus can be reached on outcome measures of managed care programs. Accepted outcome and quality measures, control groups, and criteria for intervening in patient treatment are frequently missing in published articles about cost savings and other results of managed care programs. Without explicitly stated criteria on treatment process and outcomes, quality and appropriateness of care also are difficult to evaluate.

Managed care may produce different effects in public- and private-sector programs. Some public advocates have argued that clients under managed care in publicly financed programs such as Medicaid may receive services insufficient to meet their needs. If public managed care programs curtail use, quality of care may be adversely affected. Quality of care may be improved by expanding or intensifying public drug treatment, whereas managed care may inhibit persons with drug problems from gaining access to treatment. In

private health insurance without managed care, however, patients may receive inappropriate care, for example, inpatient care when outpatient care may be equally effective. The public and private sectors intersect for those privately covered patients who exhaust their private health insurance for drug treatment and have to rely on public programs for continued treatment. The public and private sectors also intersect in legislatively mandated drug treatment services. How such legislative requirements for health care benefits affect substance abuse coverage and managed care has not been studied: Do small employers drop health insurance coverage or institute managed care because of State mandates? Do State mandates add to costs of substance abuse services, including those under managed care?

Little is known about the cost-effectiveness of various developments in drug treatment (McAuliffe 1990). This lack of knowledge extends to managed care for drug treatment. Concerning cost savings, a recent CBO study found that the cost savings of managed care programs were limited (Langwell and Menke 1991). This finding contrasts with the reported savings in many articles in the trade press on health care of interest to business. Many articles by managed care firms proclaim cost and utilization savings, but most are not based on reliable health services research. What is also unknown is whether the savings accrue to the payer and the provider or just to the managed care plan. The CBO study noted that many cost savings findings come from HMOs where financing and service provision are integrated, which is different from the more loosely structured PPOs and managed fee-for-service plans. The study offers three reasons for the limited costs savings from managed care programs (Langwell and Menke 1991, p. 39):

- Not all managed care arrangements are equally effective—in fact, there is little evidence that loosely organized managed care produces any savings, and much of the growth in enrollment in managed care organizations has been among loosely organized types of arrangements.
- Substantial administrative costs are associated with managed care, and these costs may be sufficiently high to offset savings generated by modest reductions in hospital admissions or length of stay. In addition, administrative costs are higher the smaller the insured group. Since HMOs tend to enroll a somewhat small proportion of the employees from any one employer, their per capita administrative costs are high.
- The fragmented system of health care financing in the United States may make it possible for providers to expand the number of services and increase prices for other types of patients when managed care is successful in reducing utilization and expenditures for some groups of patients.

MANAGED CARE AND CASE MANAGEMENT

Managed care probably provides some useful insights for case management, or at least some useful parallels. Before such insights can be presented, managed care and case management should be defined.

Managed care has no single, widely accepted definition, as has been indicated above. The four definitions given present certain common elements or components of managed care. These include various types of utilization review activities, assessment and referral to treatment, treatment monitoring, financial incentives to influence provider practices, and provider arrangements that direct patient choice. Managed care comes from an acute care, medical model of treatment, which partly distinguishes it from case management.

Case management is a term that is used in both the health care treatment and social services sectors. In the latter context its definition includes longitudinal, individual, comprehensive, flexible, personal, accessible, and cohesive interventions (Willenbring et al. 1991). As defined by the Joint Commission on the Accreditation of Health Care Organizations, case management functions include identification and outreach, assessment, planning, linkage, monitoring and evaluation, and client advocacy (Willenbring et al. 1991).

The health care treatment field uses case management in a different sense. Case management in health care includes intake assessment, referral to appropriate treatment, monitoring during treatment, discharge planning, and coordinated followup care (Franklin et al. 1987). It literally refers to the management of a "case." It is frequently used in the long-term-care field, where a variety of medical and related problems with activities of daily living are present and require coordinated attention. In long-term care, case management includes needs assessment, care planning, service coordination, monitoring, and client advocacy (Kemper 1990). In health care, case management is broader than managed care in that it refers to a full range of health and related services, such as home care, often for chronic, debilitating conditions.

In the arena of substance abuse treatment, there is a growing recognition of the importance of treating more than just the disorder of substance abuse. Willenbring and colleagues (1991, p. 4) explain this as follows:

Some of these groups (for example, public inebriates, poor and homeless people, people with concomitant serious mental illness and alcohol and other drug

dependence) share certain characteristics and problems that are related to a poorer treatment response. These seem to be related both to the nature of the illnesses (for example, suffering a more virulent form of the illness) and to the nature of the public treatment systems available to serve them (fragmented, lacking in structures for continuous care). Lack of socioeconomic resources, or other social disadvantage, may contribute in many cases.

Recognition of the variety of problems has promoted the development of social service interventions associated with case management to supplement the medical model of treating the substance abuse problem. It is this attempt, according to Willenbring and colleagues (1991, p. 5),

. . . both to modify alcohol and drug treatment and to present it in conjunction with other treatments, that case management has received its recent, and often favorable, review. Case management, which has long been utilized and felt to be effective in a variety of social welfare programs and in psychiatric treatment, is appealing to program designers confronted with complex problems and fragmented systems of care.

Drug abuse providers now attempt provision of or reference to social services for pregnant women with drug problems, homeless families and youths with substance problems, and human immunodeficiency virus substance abuse patients, groups of patients who have not benefited from the customary medical care.

Case management is becoming increasingly important for providing care to pregnant women with substance abuse problems. The Health Care Financing Administration has instituted a Medicaid Demonstration titled Treatment Services for Drug-Addicted Pregnant Women, which will provide "coordinated care" for combined substance abuse and prenatal care (for an explanation of coordinated care, see Managed care: Key 1991). The demonstration is designed to include such services as outreach to identify and recruit Medicaid-eligible women; integration and coordination of comprehensive services (e.g., prenatal care, substance abuse treatment, other ancillary services, including social support services for the family); assessment, management, and followup of the mother and infant; and followup and monitoring for a period of time following treatment services to help women remain drug-free.

Substance abuse is a growing problem among homeless families, and treatment providers recognize that these families require more than just treatment services (Weinreb and Bassuk 1990). Despite the lack of sufficient services across the Nation, there are several model programs that have begun to offer both health and social support services. For problems faced by homeless and runaway youth with drug problems, there are insufficient services to meet their needs, but there are model programs that have had some success in meeting youth's needs (Pires and Silber 1991).

In the social services sector, case management includes much more than treatment for substance abuse problems. This definition includes outreach and services such as job counseling, training, and placement (Nishimoto et al. 1991). It frequently deals with a family rather than the individual (Neenan and Bowen 1991). In addition, case management makes use of a facilitator, not just a "gatekeeper," in many managed care programs. Thus, managed care can be included under the umbrella of activities that constitute case management, whether in the health care or the larger social services context. Although managed care practitioners frequently use the term case management, they mean by it the management of a particular patient's care, not a type of grouped activities to treat and provide social services to an individual. There is an intertwining of the use of terms that requires careful definition of each term in the specific context to avoid confusion.

There are two issues in managed care that are particularly relevant to case management. These are the lack of explicit, widely accepted criteria for managed care and the lack of demonstrated cost savings attributable to managed care.

The goals of case management and managed care appear to be different. The former is concerned with providing coordinated care and social services, patient advocacy, and a range or network of support systems; on the other hand, managed care is concerned primarily with cost control, albeit without sacrificing the quality of care. Despite the differences in their goals, however, both case management and managed care are affected in similar ways by the lack of criteria in assessment, referral, intervention activities, and followup as much as by the lack of documented cost-effectiveness.

In managed care there are no uniform, widely accepted criteria for pretreatment assessment and matching, patient monitoring, length of stay and appropriate placement by modality and setting, and treatment procedures. There appears to be the same lack of criteria within case management. The effect of this lack in both areas makes it difficult to compare different interventions. Therefore, in both managed care and case management, it is critical that evaluators state

explicitly and in detail "what it is" that the intervention or activity under analysis does. That is, Are cost savings attributable to the financial incentives for the providers, to changes in procedures such as shorter lengths of stay in rehabilitation units, to changes in types of therapies, or to some combination of these?

In managed care the health business literature is replete with articles proclaiming the cost savings of the authors' particular approaches to managed care. These cost savings do not stand up to scrutiny for the most part because the authors do not provide sufficient detail on the "what it is" that their managed care program does (also, they frequently do not use random assignment study methods or statistically adjust for self-selection bias [Sechrest et al. 1990]). In case management, cost savings is not a primary goal. Nonetheless, in an era of contracting public budgets, it is paramount that case management show itself to be cost-effective or cost-beneficial. The same difficulties encountered in demonstrating cost-effectiveness or cost-benefits in managed care apply to case management. Of particular importance in case management is the issue of cost-offset (Holder 1987; Holder and Blose 1986; Holder and Schachtman 1987); that is, Does an aspect of case management, such as job training and placement, lead to a savings (an offset) in the costs of public welfare? The offset issue presents methodological difficulties in evaluation, but it is not an insurmountable barrier to research.

SUMMARY

Managed care has become an important subject for health service research and is used increasingly by health care payers to control health care use and costs. Health services research on managed care has relevance to the evaluation of case management of persons with substance abuse problems. Two issues in managed care that are particularly relevant to case management are the lack of explicit, widely accepted criteria for managed care and the lack of demonstrated cost savings attributable to managed care. Thorough, systematic evaluative research needs to be done before these issues are well understood.

REFERENCES

- Docherty, J.P. Myths and mystifications of managed care. *J Ment Health Admin* 17(2):138-143, 1990.
- Fant, D.J., and Pool, C.J. The CHAMPUS reform initiative and fiscal intermediary managed care. *J Ambul Care Manage* 13(3):22-28, 1990.

- Field, M.J., and Gray, B.H. Should we regulate 'utilization management'? *Health Affairs* 8(4):103-112, 1989.
- Frabotta, J. How to weigh drug treatment options. *Bus Health* 7(2):37-38, 1989.
- Frank, R.G.; Salkever, D.S.; and Sharfstein, S.S. A new look at rising mental health insurance costs. *Health Affairs* 10(2):116-123, 1991.
- Franklin, J.L.; Solovitz, B.; Mason, M.; Clemons, J.R.; and Miller, G.E. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- Freundenheim, M. Doctors press states to curb review of procedures. *The New York Times*, February 13, 1991. pp. A1, D3.
- Holder, H.D. Alcoholism treatment and potential health care cost saving. *Med Care* 25(1):52-71, 1987.
- Holder, H.D., and Blose, J. Alcoholism treatment and total health care utilization and costs: A four-year longitudinal analysis of federal employees. *JAMA* 256(11):1456-1460, 1986.
- Holder, H.D., and Schachtman, R.H. Estimating health care savings associated with alcoholism treatment. *Alcohol Clin Exp Res* 11(1):66-72, 1987.
- Institute of Medicine. *Broadening the Base of Treatment for Alcohol Problems*. Washington, DC: National Academy Press, 1990.
- Jensen, G.A., and Morrissey, M.A. Group health insurance: A hedonic price approach. *Rev Econ Stat* LXXII(1):38-44, 1990.
- Kemper, P. Case management agency systems of administering long-term care: Evidence from the channeling demonstration. *Gerontologist* 30(6):817-824, 1990.
- Kite, W.R. Results of managed care survey of NAATP members. *NAATP Review*. September/October:13-17, 1989.
- Langwell, K., and Menke, T. *Rising Health Care Costs: Causes, Implications, and Strategies*. Washington, DC: Congress of the United States, Congressional Budget Office, April 1991.
- Managed care: Key to health insurance reform? *Health Affairs* 10(4), 1991.
- McAuliffe, W.E. Health care policy issues in the drug abuser treatment field. *J Health Politics Policy Law* 15(2):357-385, 1990.
- Miller, W.R., and Hester, R.K. Inpatient alcoholism treatment: Who benefits? *Am Psychol* 41(7):794-805, 1986.
- Neenan, P., and Bowen, G.L. Multimethod assessment of a child-care demonstration project for AFDC recipient families. *Eval Rev* 15(2):219-232, 1991.
- Nishimoto, R.; Weil, M.; and Thiel, K.S. A service tracking and referral form to monitor the receipt of services in a case management program. *Admin Soc Work* 15(3):33-48, 1991.
- Pires, S.A., and Silber, J.T. *On Their Own: Runaway and Homeless Youth and Programs That Serve Them*. Washington, DC: The CASSP Technical Assistance Center of the Georgetown University Child Development Center, June 1991.

- Prottas, J., and Handler, E. The complexities of managed care: Operating a voluntary system. *J Health Politics Policy Law* 12(2):253-267, 1987.
- Saxe, L.; Dougherty, D.; Esty, K.; and Fine, M. *The Effectiveness and Costs of Alcoholism Treatment: Health Technology Case Study 22*. Washington, DC: Congress of the United States, Office of Technology Assessment, March 1983.
- Sechrest, L.; Perrin, E.; and Bunker, E., eds. *Research Methodology: Strengthening Causal Interpretations of Nonexperimental Data*. Rockville, MD: U.S. Department of Health and Human Services, U.S. Public Health Service, Agency for Health Care Policy and Research, May 1990.
- Temple, P.C., and Kron, S. The Philadelphia Health Insurance Organization: The results of managed health care for 96,000 medical assistance recipients. *Health Matrix* 7(4):12-20, 1989.
- Weinreb, L.F., and Bassuk, E.L. Substance abuse in homeless families. In: *Community Care for Homeless Families: A Program Design Manual*. Washington, DC: Interagency Council on the Homeless, winter 1990.
- Willenbring, M.L.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. National Institute on Alcohol Abuse and Alcoholism, Division of Clinical and Prevention Research, Homeless Demonstration and Evaluation Branch. DHHS Pub. No. (ADM)91-1766. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., February 1991.
- Zusman, J. Utilization review: Theory, practice, and issues. *Hosp Community Psychiatry* 41(5):531-536, 1990.

BIBLIOGRAPHY

- Anderson, D.F. How effective is managed mental health care? *Bus Health* 7(9):34-35, 1989.
- Anglin, M.D., and Hser, Y. The treatment of drug abuse. In: Wilson, J.Q., and Tonry, M., eds. *Drugs and Crime*. Chicago: University of Chicago Press, 1990. pp. 393-460.
- Aspler, R., and Harding, W.M. Cost-effectiveness analysis of drug abuse treatment: Current status and recommendations for future research. In: *Drug Abuse Services Research Series. Background Papers on Drug Abuse Financing and Services Research*. No. 1. DHHS Pub. No. (ADM)91-1777. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991. pp. 58-81.
- Baker, F., and Vischi, T. Continuity of care and the control of costs: Can case management assure both? *J Public Health Policy* 10(2):204-213, 1989.
- Batki, S.L. Drug abuse, psychiatric disorders, and AIDS: Dual and triple diagnosis. *West J Med* 152(5):547-552, 1990.
- Bell, N. From the trenches: Strategies that work. *Bus Health* 9(5):18-28, 1991.

- Bergman, A.; Henderson, M.; and Cline, J.L. Technology and outpatient review: A preliminary evaluation. *Qual Rev Bull* 16(6):234-239, 1990.
- Bey, J.M.; Widtfeldt, A.K.; and Burns, J.M. The nurse as health manager. *Bus Health* 8(10):24-31, 1990.
- Bloom, B.L. Managing mental health services: Some comments for the overdue debate in psychology. *Community Mental Health J* 26(1):107-124, 1990.
- Bond, G.R.; Miller, L.D.; Krumwied, R.D.; and Ward, R.S. Assertive case management in three CMHCs: A controlled study. *Hosp Community Psychiatry* 39(4):411-418, 1988.
- Borenstein, D.B. Managed care: A means of rationing psychiatric treatment. *Hosp Community Psychiatry* 41(10):1095-1098, 1990.
- Bryant, M. Are rising mental health costs driving you crazy? *Bus Health* 9(1):36-43, 1990.
- Burton, W.N.; Hoy, D.A.; Bonin, R.L.; and Gladstone, L. Quality and cost-effective management of mental health care. *J Occup Med* 31(4):363-367, 1989.
- Candidates for individual case management: Health, psychiatric, drug abuse claims. *Employee Benefit Plan Rev* 41(6):11-18, 1986.
- Caplan, R.D.; Vinokur, A.D.; Price, R.H.; and Van Ryn, M. Job seeking, reemployment, and mental health: A randomized field experiment in coping with job loss. *J Appl Psychol* 74(5):759-769, 1989.
- DiMonaco, J.S., and DiMonaco, D. The systems approach to managing mental health and chemical dependency treatment—synergism at work. *Employee Benefits J* 14(1):12-16, 1989.
- Dobmeyer, T.W.; McKee, P.A.; Miller, R.D.; and Wesco, J.S. The effect of enrollment in a prepaid health plan on utilization of a community crisis intervention center by chronically mentally ill individuals. *Community Ment Health J* 26(2):129-137, 1990.
- Dorwart, R.A. Managed mental health care: Myths and realities in the 1990s. *Hosp Community Psychiatry* 41(10):1087-1091, 1990.
- Edelman, B., and Phelan, A. Health maintenance organizations and the treatment of substance abuse. *J Ambul Care Manage* 15(1):56-67, 1992.
- Faherty, B. Case management—the latest buzzword: What it is and what it isn't. *Caring* 9(7):20-22, 1990.
- Feldman, J. Response to clinical issues raised on managed care. *J Ment Health Admin* 17(2):168-169, 1990.
- Feldstein, P.; Wickizer, T.M.; and Wheeler, J.R.C. Private cost containment: The effects of utilization review programs on health care use and expenditures. *N Engl J Med* 318(20):1310-1314, 1988.
- Fisher, D.G., and Anglin, M.D. Survival analysis in drug program evaluation. Part I. Overall program effectiveness. Part II. Partitioning treatment effects. *Int J Addict* 22(4):115-133, 377-387, 1987.

- Frank, R.G., and Lave, J.R. Some economic aspects of managed mental health care. In: Feldman, S., ed. *Managed Mental Health Care*. San Francisco: Charles C Thomas, in press.
- Freund, D.A.; Rossiter, L.F.; Fox, P.D.; Meyer, J.A.; Hurley, R.E.; Carey, T.S.; and Paul, J.E. Evaluation of the Medicaid competition demonstrations. *Health Care Financ Rev* 11(2):81-97, 1989.
- Frieden, J. What's ahead for managed care? *Bus Health* 9(13):42-49, 1991.
- Gabel, J.; Fink, S.; Lippert, C.; Philhour, J.; Kotler, F.; and DiCarlo, S. *Trends in Managed Health Care: Research Bulletin*. Washington, DC: Health Insurance Association of America, February 1989.
- Gabel, J.; Jajich, T.C.; Toth, C.; de Lissovoy, G.; Rice, T.; and Cohen, H. The changing world of group health insurance. *Health Affairs* 7(3):48-65, 1988.
- Gilbride, D. Managing psychiatric care: A better way to control costs. *Employee Benefits J* 12(4):27-31, 1987.
- Gold, M.; Tucker, A.; and Palsbo, S. The comparative data bases for managed care systems: An initiative to develop uniform data for a maturing industry in an uncertain environment. *J Ambulatory Care Manage* 12(4):38-47, 1989.
- Goldstein, J.M.; Bassuk, E.L.; Holland, S.K.; and Zimmer, D. Identifying catastrophic psychiatric care cases: Targeting managed care strategies. *Med Care* 26(8):790-799, 1988.
- Goldstein, L.S. Genuine managed care in psychiatry: A proposed practice model. *Gen Hosp Psychiatry* 11(4):271-277, 1989.
- Goldstein, L.S., and Browne, P.E. Identifying clinical appropriateness in the catastrophic psychiatric case. *J Ment Health Admin* 17(2):161-167, 1990.
- Goldstein, N. Introduction: Measurement and management of quality in managed care organizations: Alive and improving. *Qual Rev Bull* 17(11):343-348, 1991.
- Graham, K., and Timney, C.B. Case management in addictions treatment. *J Subst Abuse Treat* 7(3):181-188, 1990.
- Grossman, J. The psychiatric, alcohol, and drug algorithm: A decision model for the nurse reviewer. *Qual Rev Bull* 13(9):302-308, 1987.
- Hamilton, J.M. *Psychiatric Peer Review: Prelude and Promise*. Washington, DC: American Psychiatric Press, 1985.
- Harris, M., and Bergman, H.C. Capitation financing for the chronic mentally ill: A case management approach. *Hosp Community Psychiatry* 39(1):68-72, 1988.
- Hayashida, M.; Alterman, A.I.; McLellan, T.; O'Brien, C.P.; Purtill, J.J.; Volpicelli, J.R.; Raphaelson, A.H.; and Hall, C.P. Comparative effectiveness and costs of inpatient and outpatient detoxification of patients with mild-to-moderate alcohol withdrawal syndrome. *N Engl J Med* 320(6):358-365, 1989.
- Herrington, B.S. Time is running out to protect mental health benefits. *Psychiatric News* XXVI(19):12, 1990.

- Hohlen, M.M.; Mannheim, L.M.; Fleming, G.V.; Davidson, S.M.; Yudkowsky, B.K.; Werner, S.M.; and Wheatley, G.M. Access to office-based physicians under capitation reimbursement and Medicaid case management. Finding from the Children's Medicaid Program. *Med Care* 28(1):59-68, 1990.
- Hser, Y.; Anglin, M.D.; and Liu, Y. A survival analysis of gender and ethnic differences in responsiveness to methadone maintenance treatment. In: *The 25th Anniversary Edition of the International Journal of the Addictions: A Special Section on Multivariate Methods* 25(11a):1295-1315, 1991.
- Hubbard, R.L.; Marsden, M.E.; Rachal, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment. A National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989.
- Hurley, R.E.; Paul, J.E.; and Freund, D.A. Going into gatekeeping: An empirical assessment. *Qual Rev Bull* 15(10):306-314, 1989.
- Jerrell, J.M., and Hu, T.W. Cost-effectiveness of intensive clinical and case management compared with an existing system of care. *Inquiry* 26(2):224-234, 1989.
- Kanter, J. Clinical case management: Definition, principles, components. *Hosp Community Psychiatry* 40(4):361-368, 1989.
- Kaple, J.G. A path through the managed care maze. (Reprint.) *Best's Rev* 89(6), 1988.
- Koco, L. UR firm makes its protocols public. *Natl Underwriter* 95(4):3, 26, 1991.
- Korczyk, S.M., and Witte, H.A. *Managed Care Plans in Rural America: How They Work, What They Do. A Report to the National Rural Electric Cooperative Association and the Metropolitan Life Insurance Company*. Washington, DC: National Rural Electric Cooperative Association, 1991.
- Krieger, J.W.; Connell, F.A.; and LoGerfo, J.P. Medicaid prenatal care: A comparison of use and outcomes in fee-for-service and managed care. *Am J Public Health* 82(2):185-190, 1992.
- Kuzmicki, K.V., and Penner, N.R. The American Psychiatric Association's psychiatric case management program. *Qual Rev Bull* 13(1):21-25, 1987.
- LaSota, J. Growth in psychiatric services spurs call for utilization review. *Bus Insurance* 23(8):24-26, 1989.
- Lawless, G.D. Cost containment through outpatient substance abuse services. *Employee Benefits J* 15(1):6-10, 1990.
- Leatherman, S.; Peterson, E.; Heinen, L.; and Quam, L. Quality screening and management using claims data in a managed care setting. *Qual Rev Bull* 17(11):349-359, 1991.
- Lerner, M.; Salkever, D.S.; and Newman, J.F. The decline in the Blue Cross Plan admission rate: Four explanations. *Inquiry* 20:103-113, 1983.
- Listing of managed mental health care vendors. *Bus Insurance* 25:39-73, 1991.
- McCraday, B.; Longabaugh, R.; Fink, E.; Beattie, M.; and Ruggieri-Authalet, A. Cost effectiveness of alcohol treatment in partial hospital versus inpatient

- settings after brief inpatient treatment 12-month outcomes. *J Consult Clin Psychol* 54(5):708-713, 1986.
- McGuirk-Porell, M.; Goldberg, G.A.; Goldin, D.; Lanhart, G.; Ober, S.; and Bizier, R. A performance-based quality evaluation system for preferred provider organizations. *Qual Rev Bull* 17(11):365-371, 1991.
- McRae, J. What happens to patients after five years of intensive case management stops? *Hosp Community Psychiatry* 41(2):175-179, 1990.
- Melnick, S.D., and Lyter, L.L. The negative impacts of increased concurrent review of psychiatric inpatient care. *Hosp Community Psychiatry* 38(3):300-302, 1987.
- Meyer, J. Strategies for lowering health costs. *Health Sys Rev* 24(2):16, 18, 22, passim, 1991.
- Milstein, A.; Oehm, M.; and Alpert, G. Gauging the performance of utilization review. *Bus Health* 4(4):10-12, 1987.
- Moscovice, I.; Finch, M.; and Lurie, N. Minnesota: Plan choice by the mentally ill in Medicaid prepaid health plans. In: *Advances in Health Economics and Health Services Research*. Vol. 10. Greenwich, CT: JAI Press, 1991. pp. 265-278.
- National Association of Private Psychiatric Hospitals. *1990 Survey on Utilization Management Firms Conducting Psychiatric Review*. Washington, DC: National Association of Private Psychiatric Hospitals, 1990.
- Osher, F.C., and Kofoed, L.L. Treatment of patients with psychiatric and psychoactive substance abuse disorders. *Hosp Community Psychiatry* 40(10):1025-1030, 1989.
- Patterson, D.Y. Managed care: An approach to rational psychiatric treatment. *Hosp Community Psychiatry* 41(10):1092-1095, 1990.
- Perlman, B.B.; Melnick, G.; and Kentera, A. Assessing the effectiveness of a case management program. *Hosp Community Psychiatry* 36(4):405-407, 1985.
- Peterson, P.R. How to make a soft landing: Managed care adds needed ballast for mental health benefits. *Bus Health* 5(9):18-21, 1988.
- Piette, J.; Fleishman, J.A.; Moore, V.; and Dill, A. A comparison of hospital and community case management programs for persons with AIDS. *Med Care* 28(8):746-775, 1990.
- Polzer, K. Strategies to contain health care costs. *Bus Health* 8(9):30-35, 38, 1990.
- Potter, H. Controlling alcohol treatment costs. *Manage Rev* 74(10):15-16, 1985.
- Pouzar, E.A. Rehabilitating workers hooked on drugs. *Risk Manage* 38(3):28-30, 32, 34, 1991.
- Rodriguez, A.R., and Maher, J.J. Psychiatric case management offers cost, quality control. *Bus Health* 3(4):14-17, 1986.
- Sabatino, F. Survey: Managed care led '89 diversification improvements. *Hospitals* 64(1):56-59, 1990.

- Saxe, L., and Schusterman, G. Drug treatment modalities: A taxonomy to aid development of services research. In: *Drug Abuse Services Research Series. Background Papers on Drug Abuse Financing and Services Research*. No. 1. DHHS Pub. No. (ADM)91-1777. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991. pp. 1-15.
- Scheffler, R.M.; Sullivan, S.D.; and Ko, T.H. The impact of Blue Cross and Blue Shield plan and utilization management programs, 1980-1988. *Inquiry* 28(3):263-275, 1991.
- Schouldice, R.G. *Introduction to Managed Care: Health Maintenance Organizations, Preferred Provider Organizations, and Competitive Medical Plans*. Arlington, VA: Information Resources Press, October 1991.
- Sederer, L.I., and St. Clair, R.L. Managed mental health care and the Massachusetts experience. *Am J Psychiatry* 146(9):1142-1148, 1989.
- Seltzer, D.A. Limitations on HMO services and the emerging redefinition of chronic mental illness. *Hosp Community Psychiatry* 39(2):137-139, 1988.
- Sharfstein, S.S. Utilization management: Managed or mangled psychiatric care? *Am J Psychiatry* 147(8):965-966, 1990a.
- Sharfstein, S.S., ed. Special section: Impact of managed care on the private hospital. *J Mental Health Admin* 17(2):137-170, 1990b.
- Sharfstein, S.S.; Thistel, C.; Scott, J.; Parente, F.J.; and Whitmarsh, G. Impact of benefits limits and managed care on discharge plans and outcome: An introduction. *Psychiatric Hosp* 21(4):177-182, 1990.
- Shikles, J.L. "Managed Care: Oregon Program Appears Successful but Expansions Should Be Implemented Cautiously." GAO/T-HRD 91-48. Statement before the Subcommittee on Health and the Environment, Committee on Energy and Commerce, U.S. House of Representatives. Washington, DC: U.S. General Accounting Office, Human Resources Division, September 16, 1991.
- Sorrenti, R.W. How to assess managed care plans. *Bus Health* 5(11):14-16, 1988.
- Spitz, B. A national survey of Medicaid case management. *Health Affairs* 6(1):61-70, 1987.
- Stevens, C. An industry that's booming in spite of itself. *Med Econ* 68(12):93-94, 96, 1991.
- Sullivan, S.; Flynn, T.J.; and Lewin, M.E. The quest to manage mental health costs. *Bus Health* 4(4):24-28, 1987.
- Taulbee, P. Outcomes management: Buying value and cutting costs. *Bus Health* 9(3):28-39, 1991.
- Temkin-Greener, H., and Wichell, M. Medicaid beneficiaries under managed care: Provider choice and satisfaction. *Health Serv Res* 26(4):509-530, 1991.
- Tischler, G.L. Utilization management of mental health services by private third parties. *Am J Psychiatry* 147(8):967-973, 1990a.

- Tischler, G.L. Utilization management and the quality of care. *Hosp Community Psychiatry* 41(10):1099-1102, 1990b.
- Tompkins, C. Drug abuse among workers and employee assistance programs. In: *Drug Abuse Services Research Series: Background Papers on Drug Abuse Financing and Services Research*. No. 1. DHHS Pub. No. (ADM)91-1777. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991. pp. 82-106.
- Walker, J.D.; Aquilina, D.; and Needle, P.R. Managing mental health costs. *HealthSpan* 3(10):11-15, 1986.
- Walsh, D.C.; Hingson, R.W.; Merrigan, D.M.; Levenson, S.M.; Cupples, A.; Heeren, T.; Coffman, G.A.; Becker, C.A.; Barker, T.A.; Hamilton, S.K.; McGuire, T.G.; and Kelly, C.A. A randomized trial of treatment options for alcohol-abusing workers. *N Engl J Med* 325(11):775-782, 1991.
- Wells, K.B.; Marquis, M.S.; and Hosek, S.D. Mental health and selection of preferred provider organizations: Experience in three employee groups. *Med Care* 29(9):911-925, 1991.
- Wenzel, L. From insured to managed mental health care. *HealthSpan* 3(10):3-10, 1986.
- Wheeler, J.R.C., and Wickizer, T. Relating health care market characteristics to the effectiveness of utilization review programs. *Inquiry* 27(4):344-351, 1990.
- Wheeler, J.R., and Feldstein, P.J. Have hospital inpatient cost containment programs contributed to the growth in outpatient expenditures? *Med Care* 29(5):442-451, 1991.
- White, S. Managed health care for alcohol, drug abuse and mental health. *Self-Insurer* 4(5):12-14, 1987.
- Wickizer, T.M. The effect of utilization review on hospital use and expenditures: A review of the literature and an update on recent findings. *Med Care Rev* 47(3):327-363, 1990.
- Wickizer, T.M.; Wheeler, J.R.; and Feldstein, P.J. Does utilization review reduce unnecessary hospital care and contain costs? *Med Care* 27(6):632-647, 1989.
- Woolsey, C. UR, a 1980s innovation, is today's staple. *Bus Insurance* 25(7):19, 1991.

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Accessing Additional Community Resources Through Case Management To Meet the Needs of Methadone Clients

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INTRODUCTION

The end of the 1980s saw renewed interest in expanding and improving the effectiveness of methadone-assisted rehabilitation as a tool for stopping the spread of infectious diseases, specifically human immunodeficiency virus (HIV), the known cause of acquired immunodeficiency syndrome (AIDS) (Ball et al. 1989; Dennis et al. 1991a; Haverkos 1991; Haverkos and Lange 1990; Hubbard et al. 1989; Gerstein and Harwood 1990; Watkins et al. 1988). Injecting drug users (IDUs), one of the fastest growing group of people with AIDS, account for 32 percent of all AIDS cases (National Commission on AIDS 1991). Unlike the rate of new AIDS cases among homosexuals, the rate of new IDU-related AIDS cases is increasing; 25 percent of all IDU-related AIDS cases have been reported since July 1990 (Centers for Disease Control 1991).

Recent studies suggest that methadone treatment programs increasingly are offering fewer services despite the complex needs of their clients and existing Federal mandates to do so (D'Aunno and Vaughn 1992; Dennis et al. 1991a; Frances 1991; General Accounting Office 1990; Food and Drug Administration 1972). As programs employ fewer specialists and offer fewer direct ancillary services, they must increasingly rely on existing community resources to meet their clients' needs, ensure their continued treatment, and support them on the road to recovery. Unfortunately, clients and existing staff are not consistently adept at accessing these existing resources. Recent evidence, reviewed later in this chapter, suggests that increased attention to rehabilitation and ancillary services improves retention and decreases the injection of heroin, speedball, cocaine, and other drugs (Dennis et al. 1991a; Fairbank et al. 1991; McLellan et al. 1988).

This chapter reviews the literature and presents data from two randomized field experiments that the Research Triangle Institute (RTI) is currently conducting to examine the unmet needs of methadone clients, the availability of community resources to address those needs, the utilization of these resources, and the extent to which a case management approach can be used to improve treatment outcomes. Information from these preliminary studies is then used to recommend a model for accessing community resources through case management to meet the needs of methadone clients. The proposed model includes the authors' definition of case management, suggested qualifications for the case manager and how that manager should interact with the existing staff and service system, and methodological considerations in evaluating the proposed model.

BACKGROUND FROM THE LITERATURE

To identify related information and references on case management for methadone clients, the authors searched the literature for the past 10 years in five computer databases: MEDLINE, PsychInfo, Mental Health Abstracts, Health Planning and Administration, and Nursing and Allied Health. Each database was searched for the following strings: Case management and treatment; drug abuse or substance abuse or alcohol or methadone; case manage and link; link and drug abuse or substance abuse or alcohol or methadone; case manage and link or linkage and treatment; and service or provider. We then reviewed recent issues of the National Institute on Drug Abuse's (NIDA) Treatment Research Monograph Series, NIDA's (1990) "Training for Methadone Treatment Professionals" draft manual, the Bureau of Health Care Delivery Assistance's "National Resource Guide: Primary Health Care and Linking Drug Abuse Treatment" (Cox et al. 1991), volume 3 of the "Oxford Textbook of Public Health" (Holland et al. 1990), and RTI's extensive library of technical reports on drug abuse treatment.

Although the combined search identified more than 85 unique references on case management, no published evaluations of case management were identified that met the following criteria adapted from Chamberlain and Rapp (1991, pp.172-173):

- Case management defined as the independent variable rather than as an element of the independent variable
- Independent variable described
- Dependent variables defined as client outcomes

- Experimental or quasi-experimental designs used
- Unique to this review, outpatient methadone or drug-free clients in the sample

This finding is not surprising given that Chamberlain and Rapp (1991) had been able to identify only six studies in the much larger field of mental health that met these criteria. However, numerous reviews of the issues involved, surveys of existing practices in addiction treatment, and detailed data on the other types of client problems were identified.

Case Management Issues

During the past 10 to 20 years, case management has become an increasingly common technique for providing some or all of the services in human services agencies as clients have been transferred from institutions with centralized services to the community where services are typically decentralized (Sanborn 1983; Weil et al. 1985). This chapter offers only a brief reprise of some of the major recurring issues because the literature already provided several models and reviews of case management in general (Bachrach 1981; Bond et al. 1989; Chamberlain and Rapp 1991; Cohen et al. 1980; Forchuk et al. 1989; Franklin et al. 1987; Harris and Bergman 1988; Intagliata 1982; Levine and Fleming 1987; Modrcin et al. 1985; Sullivan 1981; Perlman et al. 1985; Pincus 1987; Stein and Test 1980; Texas Department of Mental Health and Mental Retardation 1985; Willenbring et al. 1991). These issues include:

- Should the case manager serve as a therapist/direct service provider, a service broker, or an advocate?
- Should case management be provided by someone located within a specific program working with a specific type of client or by someone working in the larger social service system matching clients to programs?
- Which services should be provided directly by the program, and which should be provided through case management of other community resources?
- Who should receive case management services, and how much assistance should they receive?
- Should case managers work directly with clients, as part of a treatment team, or only through existing treatment staff?
- To what extent should case management focus on client empowerment?

At one extreme, Lamb (1980) and Deitchman (1980) have argued that case management should be part of the normal duties of a conscientious therapist and that a nontherapist is unable to effectively work with the client without knowing the client's special needs. Under this conception, the therapist would be a generalist and provide a variety of services to a presumably small caseload of clients. Unfortunately, few of the primary counselors in methadone programs have the qualifications for this role, raising the question of rationing the services of those who do or spending resources to train those who do not.

At the other extreme, Rapp and Chamberlain (1985), Intagliata and Baker (1983), and Kurtz and colleagues (1984) support a model of case managers as brokers of services. Although they recognize the inherent problems of using nontherapists, they cite evidence that staff members dedicated to case management are more able and willing to do more of the work necessary to link services. Furthermore, they believe that centralizing the networking process will make it more effective by creating continuity in communication and building stronger networks. Deitchman (1980) argues that centralization reduces the confusion and competition that could result from multiple people calling the same community provider.

Case Management Practices in Addiction Treatment

Although the need for case management in addiction treatment has been recognized for more than a decade, there is little consensus about what it is or who should provide it (Graham and Timney 1990; Pearlman 1984; Schlenger et al. 1990). In a review of 21 demonstrations to link primary and drug abuse treatment, Cox and colleagues (1991) found that every linkage program proposed some form of case management, but the type of person providing case management ranged from health education nurses to social workers to paraprofessionals. Furthermore, their roles ranged from education to service delivery and from working directly with clients to supporting the existing staff.

Timney and Graham (1989) reported that virtually all the 268 addiction programs they surveyed in Ontario, Canada, provided some form of case management, but what they provided ranged from health education or counseling to service brokerage or referrals. More than half the programs in the survey reported providing case management before and during treatment; 75 percent reported providing some kind of case management as aftercare; and 26.7 percent reported providing case management instead of treatment.

Ogborne and Rush (1990) surveyed 167 addiction treatment programs to study the impact of a new assessment and referral system in Alberta. The

26 programs that focused on assessment and referral to other programs served as a form of centralized intake with treatment matching but did not attempt to interfere with direct recruitment by existing programs. Thus, Ogborne and Rush found that the "service brokerage" style of case management provided by these programs supplemented the existing referral network rather than replaced the primary providers' informal referral process.

Barriers to Effective Methadone Treatment

There are numerous client-, program-, and community-level barriers to effective treatment. Foremost of the client problems is the continued use of heroin, cocaine, marijuana, and alcohol while in treatment. Methadone programs originally were designed for people whose primary problem was opiate addiction. Most clients entering programs now, however, are likely to be dependent also on cocaine or another drug (Chaisson et al. 1989; Condelli et al. 1991). Clients are also likely to have comorbid problems with mental illness, criminality, unemployment, poor training or education, inadequate family/social support, and AIDS and other infectious diseases (Cooper et al. 1983; Ginzburg et al. 1984; Haverkos 1991; Hubbard et al. 1989; Rounsaville et al. 1986; Woody et al. 1985). These additional problems create complex and heterogeneous treatment needs that are beyond the scope of what most methadone treatment programs can provide on their own.

Programs have several structural problems, including high caseloads and poor pay and working conditions that lead to high turnover, low and fixed dosage policies, and a shrinking number of ancillary services (Dennis et al. 1991a). D'Aunno and Vaughn (1992) found enormous variation in clinical practices in a national probability sample of methadone programs. Many treatment units continued in practices that the majority of previous studies had found to be ineffective. Among these common *less effective* practices were low-methadone dosage policies and little or no client involvement in dosage setting.

Existing community resources are scattered over a variety of agencies, each with its own eligibility criteria and application process. Ex-addicts must compete with many different populations for employment services (Hollister et al. 1984). Groups such as displaced workers, unemployed youths, or chronically unemployed nonoffenders are often viewed as more "deserving" of social services than former drug users. The complexity of the employment-related problems of the various disadvantaged populations, including ex-addicts, has led to the development of a variety of Federal, State, and local programs designed to assist such individuals in obtaining and maintaining employment. The two most relevant programs for this discussion are the

Job Training Partnership Act (JTPA) program and the State Division of Vocational Rehabilitation (DVR) programs.

A major problem for methadone treatment clients is that the cost-per-client standards generally used in the \$3.8 billion JTPA program, the principal funding agent for general employment services programs, stack the odds against the ex-addict's obtaining employment services. The JTPA-sponsored programs primarily focus on preparing economically disadvantaged people or displaced workers to enter the labor market through training, job development, and job placement. During preparation and after placement, JTPA clients must rely on their own skills and resources to either succeed or fail. Services such as adjustment counseling, social service referrals, and crisis intervention assistance are minimal or nonexistent in JTPA programs. The dropout rates from JTPA programs for ex-addicts and other disabled populations are very high because these programs are poorly suited to meeting their needs (Hollister et al. 1984).

The more intensive training and employment needs of ex-addicts should and can be met through State DVR programs, just as they are for many other disabled people (e.g., persons with visual, hearing, or cognitive impairments). DVR programs can cover the cost of everything from going back to school to the cost of drug treatment for 5 to 10 years. In a national probability sample of State DVR client records, Hayward (1989) found that 9.8 percent of the clients reported substance abuse as their primary disability. Unfortunately, these records do not distinguish clients by the substances they abuse (e.g., alcohol, heroin, cocaine) or the type of treatment they receive (e.g., 12-step, residential, methadone, outpatient drug-free). Later sections of this chapter suggest that several barriers will continue to deter methadone clients from using these programs.

PRELIMINARY STUDIES

This section reports the results of several preliminary studies that were done in the context of two ongoing efforts to answer the following questions:

- What are the needs and problems of methadone clients in the Methadone Enhanced Treatment (MET) and Training and Employment Program (TEP) studies?
- Are community resources available to address these needs?
- To what extent are community resources being used to meet client needs?

- What kinds of services did clients receive through case management in MET and TEP?
- Were these services more effective or less effective than standard treatment?

The MET and TEP trials are two independent studies, each with four methadone programs in four different cities. Although two methadone programs participated in both studies at the same time, there is no overlap in the clients who participated. Before addressing the specific questions, the following section briefly summarizes the MET and TEP studies and the extent to which they involve case management.

Overview of the Two Studies

Methadone Enhanced Treatment Trials. The MET study is a randomly controlled trial being conducted from 1988 to 1992 across four programs: Sisters of Charity in Buffalo, NY; William C. Segaloff Substance Abuse Center in Camden, NJ; Desire Narcotics Rehabilitation Center in New Orleans, LA; and PBA, The Second Step, in Pittsburgh, PA. In this study, existing methadone treatment is being compared with an enhanced protocol that includes standardized needs assessment, increased problemsolving counseling, more treatment planning, more frequent urine monitoring, and use of a community services coordinator (CSC).

The CSC provides case management through MET counselors by locating services to meet client needs identified by the counselor. The CSCs each have 3 to 10 years' experience in either drug abuse or mental health counseling and are very familiar with the social service system in the community in which they work.

The study and sample were described in detail elsewhere (Bonito et al., in press; Dennis et al. 1991a, 1991b; Fairbank et al. 1991; Wechsberg et al. 1991). In brief, the client sample represents more than 86 percent of the new intakes to the four programs and includes 661 people in the main trials and approximately 750 in two preexperimental baseline control conditions. Depending on the site, the clientele is 60 to 80 percent male, 40 to 60 percent ages 30 to 40, and 38 to 78 percent African-American. Data are available from baseline, 6-month, 12-month, and 24-month interviews; service logs; record abstractions; urine test results; and HIV test results for 540 to more than 1,300 clients.

Training and Employment Program Pilot Study. The TEP pilot study is a randomly controlled trial being conducted from 1990 to 1992 across four programs: Sisters of Charity in Buffalo, NY; Milwaukee County Mental Health Complex in Milwaukee, WI; PBA, The Second Step, in Pittsburgh, PA; and Santa Clara County Bureau of Drug Abuse Services in San Jose, CA. In this study, existing methadone treatment is being measured against a protocol that includes vocational needs assessment, financial assistance, and use of a vocational specialist (VS).

The VS works directly with the counselors and clients to identify client needs and provides case management services to identify community resources to meet these needs. The VSs have master's degrees in counseling or bachelor's degrees in social work and at least 10 years of experience in alcohol and other drug rehabilitation with hard-to-serve populations. The VSs are very familiar with the social services system in their communities.

The study and sample were described in detail elsewhere (Dennis et al. 1991c; French et al., in press; Karuntzos et al. 1991). In brief, the client sample in this study represents more than 83 percent of the new intakes in two programs (San Jose and Milwaukee only), 90 percent of the people recommended by their counselor, and 74 percent of the people randomly sampled from the existing caseload. Depending on the site, the clientele is 50 to 64 percent male, averages 36 to 39 years of age, and is 2 to 39 percent African-American (San Jose clientele is 44-percent Hispanic). Data are available from initial interviews, 3-month interviews, service logs, and 12-month record abstractions from approximately 360 clients.

What Are the Needs and Problems of Clients in These Two Studies?

Although the MET trials are still under way, several analyses have already been conducted on the needs of the clients who are entering treatment and how these needs compare with those of other IDUs identified through community outreach by programs in the same communities and those represented in NIDA's (1991) 1990 National Household Survey on Drug Abuse (NHSDA) conducted by RTI. Some of the client needs and problems that were consistently identified across the four programs include:

- From 70 to 90 percent are regularly injecting cocaine as well as heroin (Wechsberg et al. 1991).
- From 71 to 87 percent have a criminal record (Bonito et al., in press).
- From 2.3 to 10.1 percent already tested positive for HIV using an ELISA screen and Western blot confirmation (Dennis et al. 1991a).

- More than 26 percent have gonorrhea, hepatitis, pneumonia, syphilis, tuberculosis, or some other infectious disease (Bonito et al., in press).

IDUs entering these programs were more likely to be older, unemployed, use more different drugs, and have longer drug use histories than IDUs identified in the 1990 NHSDA (Wechsberg et al. 1991).

Although the report of cocaine injecting was high at intake, virtually none of the current use involved crack cocaine. Unlike IDUs identified through outreach in the same four communities, the chronic daily injectors of cocaine were predominantly using speedballs, not cocaine alone.

The TEP interviews focused more on earnings, employment, training, and services. Some of the relevant findings to date include:

- Illegal earnings at intake often exceeded legal earnings by 2 to 1 (Dennis et al. 1991c).
- More than 66 percent were not employed in the week before treatment admission, with 32 percent lacking a high school diploma and 33 percent reporting at least one disability that would interfere with their ability to work (French et al., in press).
- Virtually all clients reported problems with paying for transportation, despite the fact that 94 percent had access to some form of public transportation and 65 percent had a reliable vehicle (French et al., in press).

Focus groups with counselors and clients further revealed that both groups had problems locating and accessing services in the community (Dennis et al. 1991b).

Are Community Resources Available To Address These Needs?

Both the MET and TEP experimental protocols called for the development of community resource directories in each community. Such directories were successfully created in Buffalo, Camden, Milwaukee, New Orleans, Pittsburgh, and San Jose (Arnesen 1990; Brown 1989; Garrett 1991; Goodman 1991; Heath 1991; Hurley 1989; Norman 1991; Vargo 1991). The list below summarizes the existing resources targeted and found in the community in MET and TEP.

- MET
 - Housing
 - Family services
 - Dental care
 - Medical care
 - Transportation
 - Food services
 - Mental health services
 - Physical rehabilitation
 - Educational counseling
 - Legal aid
- TEP
 - Job preparation
 - Assessment/evaluation
 - Basic educational programs
 - On-the-job training referrals
 - Vocational counseling
 - Vocational/technical programs
 - Displaced worker programs
 - Resources for vocational needs
- Both MET and TEP
 - Employment placement
 - Job skills training
 - Vocational rehabilitation
 - Psychological rehabilitation
 - Child care/day care
 - Drug treatment
 - Housing
 - Minority opportunity programs
 - Transitional needs programs
 - Social service organizations

Several of the programs and resources identified can also provide long-term assistance for medical problems, housing, vocational rehabilitation, job training, and financial assistance to pay for treatment. Although many providers and employers have had misconceptions or know little about methadone clients, they have been willing to work with the TEP and MET staffs to try to meet the complex needs of the clients.

Both studies identified two major gaps in the existing service system. First, the unavailability or inaccessibility of local resources to help clients meet small and

immediate expenses to cover things such as car repairs, license examinations, initiation fees, deposits, and tool belts were important short-term barriers to treatment retention, employment, housing, training, and service use. Second, many programs had operating shortfalls that prevented immediate intakes but not long-term commitments. This included many vocational programs that had slots but were temporarily out of funds for child care and others that had open slots but no money for the required intake testing to establish eligibility.

To What Extent Are Community Resources Being Used To Meet Client Needs?

An analysis of the topics being discussed during individual counseling sessions in MET showed client concern about educational and employment issues in more than 25 percent of the counseling sessions during the first 6 months of treatment (Fairbank et al. 1991). Unfortunately, this analysis also showed that the counselors made virtually no referrals to people inside or outside a program who might address those issues. Furthermore, the CSCs in MET repeatedly complained during the trial that they had a hard time getting the counselors to identify these cases so that the coordinator could help locate the necessary community resources. A major problem appears to be that many counselors think that the client should first focus on his or her drug problems and that issues such as employment or housing should be dealt with later.

In preparation for the TEP trials, RTI staff conducted focus groups with clients, staff, and local providers in each of the four participating sites. Dennis and colleagues (1991a) found that counselors and clients were largely unfamiliar with the available agencies and resources in the community. Although many knew of one or two agencies, they typically related horror stories about how long it took to be accepted. For instance, many clients reported being rejected by State vocational rehabilitation offices for incorrect reasons (e.g., being on methadone would violate the Drug-Free Workplace Act; treatment clients who were currently drug-free no longer faced barriers to employment) or having their applications take more than 12 months to process (Karuntzos et al. 1991).

Many of the local training and JTPA providers said they did not actively recruit ex-addicts and other disabled populations because such clients are more expensive to serve than people without addictions or disabilities and reduced the performance measures on which they were being judged (Dennis et al. 1991c). It should be noted, however, that the treatment staff knew of several local programs that (probably unwittingly) had methadone clients in their programs, although they reported they did not. Furthermore, most of the local providers and employers were willing to work with methadone clients as long as they were assured of the clients' qualifications to do the work and their progress in treatment was monitored.

What Kinds of Services Did Clients Receive Through Case Management?

Unfortunately, the MET trials were designed around enhanced counseling and did not provide detailed measures of the case management services that were provided. The authors know from site visits and progress notes that the CSCs were able to identify many resources in the community for clients and to provide transportation assistance through miscellaneous funds provided under the grant. We also know that the CSCs helped many clients to speed up their applications for welfare benefits by getting the forms and helping the clients "walk them through" the application process.

In TEP, the vocational specialists maintained detailed logs of the services they provided to clients, both in terms of direct work with specific clients and general activities. The data Dennis and colleagues (1991c) collected from the client service logs during the first 6 months of the pilot reveal that the vocational specialists:

- Directly provided clients with vocational assessments (24 percent), vocational counseling (55 percent), and/or job placements (7 percent)
- Brokered or arranged for motivational/self-esteem workshops (56 percent), job development assistance (29 percent), support services (19 percent), and educational or training services (29 percent)
- Arranged for 32 percent of the TEP clients to be reviewed by a State vocational rehabilitation agency and/or JTPA offices

Furthermore, they were able to reduce the application time for most benefit programs by 50 to 80 percent. This was done largely by having all the forms in advance, ensuring that the clients had all the necessary information, helping to collect many of the required signatures and reports, walking the client through the system, and following up on the clients as they proceeded through the application process (Karuntzos et al. 1991).

Were These Services More Effective or Less Effective Than the Standard Treatment?

The number of counseling sessions involving vocational and educational issues in MET has been one of the single greatest predictors of reduced drug injections, explaining 28 to 33 percent of the variance in subsequent abstinence and 18 to 23 percent of the variance in chronic daily injecting when combined with other treatment data (Dennis et al. 1991a). The TEP interventions were designed to identify clients with needs in these areas and to have those needs addressed through existing local resources.

Although data on the long-term impact of TEP have yet to be collected, there is already early evidence suggesting that existing community resources are being reached and services are being received by the clients. Table 1 summarizes the vocational outcomes of the clients randomly assigned to TEP with those assigned to the standard level of services. After only 3 months of the program, the TEP clients were receiving significantly more referrals, assessments, and direct services (72 vs. 32 percent). Every vocational outcome, including enrollment in long-term school/college programs, was higher for the TEP group.

TABLE 1. *Relative frequency of vocational outcomes at 3 months by level of vocational services (n=218)*

3-Month Vocational Outcomes	Level of Services*		Main Effect	
	Standard (N=111)	TEP (N=107)	F (1,208)	Significance
Received classes/education	0.02	0.3	28.92	.0001 ^{†‡§}
Referred to classes/education	5.8	13.8	1.77	.1850
Enrolled in school/college	8.6	12.2	0.02	.8778
Received job skills services	0.64	5.512	1.42	.0001 ^{†‡§}
Referred to job skills services	1.71	5.41	3.01	.0004 [†]
Received vocational assessment	4.61	8.91	1.32	.0009 [†]
Referred to job training	1.1	3.3	0.22	.6393
Received help looking for job	7.5	9.8	1.01	.3154
Received job support services	7.42	1.1	6.01	.0150 ^{†‡§}
Received financial help	0.6	6.5	6.14	.0140 [†]
Mean number of outcomes (1-10)	0.46	1.73	45.56	.0001 ^{†‡**}
Percentage with any outcome (%)	0.32	0.72	36.61	.0001 ^{†‡}

* Only services offered through standard treatment vs. the same services plus those offered by TEP

† Significant main effect of the level of services at $P_{\alpha} < .05$

‡ Also a significant main effect of site at $P_{\alpha} < .05$

§ Also a significant interaction between the level of service and client sample type (i.e., counselor recommended, intake sample, randomly sampled) at $P_{\alpha} < .05$

** Also a significant main effect of client sample type at $P_{\alpha} < .05$

SOURCE: Adapted from Dennis et al. 1992

There were also consistent patterns of reduced drug use during the first 3 months while the TEP clients were receiving the additional TEP services (Dennis et al. 1991c). Although the reduced pattern of drug use did not reach statistical significance at 3 months, it does suggest movement in a positive direction.

DISCUSSION

When the MET study began, the authors were planning to use primarily a very administrative form of case management in which a CSC would identify local community resources and then indirectly help clients access those resources through their counselors. Although the CSC became an integral part of the drug treatment team, few of the counselors were using the CSCs to access community resources for their clients. This appears to have occurred, at least in part, because counselors simply did not always understand the role of the CSC. However, as meetings with the counselors continued, it became apparent that many of them believed that progress on drug use issues should precede services, rather than go hand in hand, as we were proposing.

The authors tried to address this problem in TEP by having the VSs work directly with clients, focusing their efforts on a service broker type of case management. Although this dramatically increased the number of clients who were able to receive services, it was not without drawbacks. The camaraderie and team approach in MET were largely missing, and several clients attempted to play the VSs and counselors off each other for sympathy and services. Also, as time progressed, it was apparent that, to address vocational and employment issues, the VS had to deal with the full range of client needs and problems, acting more and more like the original CSCs as time progressed.

Based on this experience and the preliminary studies to date, the authors therefore recommend returning to the classic three-pronged approach to methadone treatment:

- Methadone to reduce the side effects of withdrawal and stabilize the client
- Counseling to address the underlying psychosocial problem(s) of addiction
- Support services to address logistical problems such as employment, transportation, child care, and medical care

In this approach, case managers would be responsible for addressing the last set of issues both in terms of immediate threats to treatment retention and long-term needs for rehabilitation. They would cover the full range of issues that

the MET CSCs did, while working directly with clients as part of an integrated treatment team. Although the treatment team certainly may try to temper overly ambitious plans, case management will be largely client driven.

The Case Manager and Case Management

In the authors' approach, the case manager should be someone who is familiar with both the clinical issues related to the client population and the local service system. Because the focus is on accessing community resources outside the treatment program, the case manager must be able to represent both the clients and the program in general to outside agencies and potential employers. Typically, he or she would have the equivalent experience of a senior counselor, have worked with multiple service agencies, and have credentials akin to a master of social work.

The role of the case manager would change as the client progresses through the phases of treatment. The case managers would:

- Have the primary responsibility for locating services outside a program and collecting eligibility and application information
- Build a network with the major local providers/employers and educate them about methadone clients and programs
- Work with the existing staff to assess a client's immediate and long-term needs and to develop a treatment plan to address them
- Have the primary responsibility for getting immediate assistance to prevent early dropout and for facilitating long-term placements with outside agencies that can provide sustained assistance to address ongoing needs.

During the startup period of a new case management component, the case manager will need to develop the resource directory and network with the community's existing agencies. A major component of this initial effort and subsequent contacts with providers and employers will be to educate them about methadone clients and treatment issues for ex-addicts in general. To create the proposed integrated team approach, the case manager and primary counselors will be cross-trained to understand critical issues in each area and to learn how to coordinate their efforts. The counseling and medical staffs will also be asked to help identify common unmet needs for which the case manager should try to identify local resources. Table 2 shows how the roles of case managers and the existing counseling and medical staff change during the three phases of treatment: the first week, the first 3 months, and long-term care.

TABLE 2. *Model of case management roles by type of staff, client, and phase of treatment*

Staff and Client Roles	Phase of Treatment		
	Startup	First Week	First 3 Months
Case manager	Development of resource directory and network; community education	Determination of eligibility and readiness for other programs	Provision of ancillary services directly or through referrals to meet immediate needs
Case manager and counseling/medical staff	Cross-training and creation of treatment teams	Identification of immediate unmet needs	Treatment planning, provision of in-house services, identification of long-term needs
Counseling/medical staff	Identification of common unmet needs	Determination of drug and other primary care problems	Primary care
Client		Identification of needs	Increased self-reliance and working directly with outside providers
			Long-term placements (e.g., job, DVR, Medicaid) to provide continued services
			Treatment and ancillary service followup
			Primary care
			Increased self-reliance and working directly with outside providers

During the first week of treatment, the client, primary counselor, and case manager will identify immediate unmet needs that might cause the client to stop coming to treatment, including adequate transportation, ability to pay for treatment, housing, or social support. During this process, the case manager will work with the client to determine the client's eligibility and readiness for existing programs and resources that might be used to address these needs. The case manager will use internal resources and, if feasible, outside resources to address needs that might prevent clients from returning the following week (e.g., provision of bus tokens). During this time, the counseling and medical staffs will proceed, as usual, to determine drug problems and other primary care needs.

During the first 3 months of treatment, the primary counselor and case manager will work with the client to develop a treatment plan, provide in-house services, and identify long-term care needs. This plan will focus on short-term (i.e., now to the next session) objectives to move the client along in treatment and to access the community services. The case manager will work with the client to access ancillary services directly or through referrals to meet immediate needs that might cause the client to drop out during the first 3 months. As usual, the counseling and medical staffs will provide primary care for drug treatment problems.

During the remainder of treatment, the focus will be on long-term rehabilitation. The client, primary counselor, and case manager will work together to follow up on treatment and ancillary services. The case manager will try to place the client into long-term programs that can provide continued services and support (e.g., job, State DVR, Medicaid). The counseling and medical staffs will provide primary care for drug treatment problems.

The start of case management services in the preceding model was at client intake. However, the case management protocol also should address the needs of clients already in treatment. For them, there will be less focus on immediate treatment retention and more on barriers to their progress in treatment. Thus, clients who achieve abstinence must then develop new and productive lifestyles to avoid relapse. Getting clients into jobs or training programs helps them feel as though they are making progress and rebuilding their lives.

The timing and amount of services provided or obtained through case management are integral to the success of the model. The authors believe that treatment progress and the provision of service are mutually reinforcing and should proceed in a spiral fashion. People without housing may need immediate assistance before they can cognitively deal with their addiction.

However, services requiring long-term client and resource commitments, such as training, should probably not be delivered until the client has made at least some progress in treatment.

Methodological Considerations

Because there is much variability of both the type and quantity of client needs, as well as expected differences in what will be received through case management, future studies should be careful to incorporate several important design features, including (1) replication in more than one service system, (2) blocking on some measure of client need before randomization, (3) standardized client needs assessments, (4) detailed measurement of the services provided to individual clients, and (5) client-level outcome measures. Based on the experience in the mental health field (Chamberlain and Rapp 1991, p. 186), client outcome measures should go beyond simple service use and broad pathological classification measures. They also should include measures that are sensitive to changes in levels of functioning and cognitive perceptions of self-efficacy.

Future studies that involve community-based experiments should carefully assess the validity of the experiment. Based on methodological work in MET, Dennis (1990) suggested that this should include (1) assessing the integrity of the case management protocol, (2) measuring treatment contamination, (3) estimating case flow and statistical power requirements, (4) analyzing the integrity of the random assignment process, (5) accounting for changes in the environmental context during the experiment, and (6) accounting for changes in the case management protocol during the experiment. Through this process, the following queries must be answered:

- To what extent has the planned case management protocol been implemented?
- To what extent does the case management regimen differ from standard treatment?
- To what extent does the randomly controlled trial represent a "fair" or valid test of any observed differences?

This approach acknowledges past problems with implementing community-based protocols and the importance of unexpected findings.

CONCLUSION

Using the information collected to date, the authors can already conclude that methadone clients have many unmet needs for ancillary services. Furthermore, in many cases existing community resources could be used to address both immediate and long-term client needs. Although it should be evaluated further in a controlled trial, case management appears to be a promising approach to accessing many of these community resources. Provision of these ancillary services, when combined with a small amount of discretionary funds to cover small immediate needs (e.g., car repairs, rent deposits, test fees, tools) and operational gaps in the service system (e.g., admission testing, first 1 to 2 months of services), is likely to improve client retention, treatment outcomes (e.g., drug use, criminal activity, health risks), and longer term rehabilitative outcomes (e.g., education, employment, and a productive lifestyle).

REFERENCES

- Arnesen, B. *Community Resource Manual for Sisters of Charity Hospital, Chemical Dependency Unit, Buffalo, NY*. Research Triangle Park, NC: Research Triangle Institute, 1990.
- Bachrach, L.L. Continuity of care for chronic mental patients: A conceptual analysis. *Am J Psychiatry* 33(3):189-197, 1981.
- Ball, J.C.; Lange, W.R.; Myers, C.P.; and Friedman, S.R. Reducing the risk of AIDS through methadone maintenance. *J Health Soc Behav* 29:214-226, 1989.
- Bond, G.; Witheridge, T.; Wasmer, D.; Dincin, J.; McRae, S.; Mayes, J.; and Ward, R. A comparison of two crisis housing alternatives to psychiatric hospitalization. *Hosp Community Psychiatry* 40(2):177-183, 1989.
- Bonito, A.J.; Bohlig, E.M.; Dennis, M.L.; Fairbank, J.A.; and Rachal, J.V. A comparison of HIV intervention approaches for IVDUs: Street outreach versus treatment intake—are they hitting the same or different targets? In: Brown, B., and Beschner, G., eds. *National AIDS Demonstration Research Book*. Rockville, MD: National Institute on Drug Abuse, in press.
- Brown, C. *Directory of Community Services for the William C. Segaloff Substance Abuse Center of Southern Jersey, Inc. Camden, New Jersey, Area*. Research Triangle Park, NC: Research Triangle Institute, 1989.
- Centers for Disease Control. *HIV/AIDS Surveillance: U.S. AIDS Cases Reported Through July 1991*. Atlanta, GA: Centers for Disease Control, 1991.
- Chaisson, R.E.; Bacchetti, P.; Osmond, D.; Brodie, B.; Sande, M.A.; and Moss, A.R. Cocaine use and HIV infection in intravenous drug users in San Francisco. *JAMA* 261:561-609, 1989.

- Chamberlain, R., and Rapp, C.A. A decade of case management: A methodological review of outcome research. *Community Ment Health J* 27:171-188, 1991.
- Cohen, M.R.; Vitalo, R.L.; Anthony, W.A.; and Pierce, R.M. *The Skills of Community Service Coordination*. Baltimore: University Park Press, 1980.
- Condelli, W.S.; Fairbank, J.A.; Dennis, M.L.; and Rachal, J.V. Cocaine use by clients in methadone treatment programs: Significance, scope, and behavioral interventions. *J Subst Abuse Treat* 8(4):203-212, 1991.
- Cooper, J.R.; Altman, F.; Brown, B.S.; and Czechowicz, D., eds. *Research on the Treatment of Narcotic Addiction: State of the Art*. DHHS Pub. No. (ADM)83-1281. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1983.
- Cox, J.; Dennis, M.L.; and Schlenger, W.E. *National Resource Guide: Linking Primary Health Care and Drug Abuse Treatment*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- D'Aunno, T., and Vaughn, T.E. Variations in methadone treatment practices: Results from a national study. *JAMA* 267(2):253-258, 1992.
- Deitchman, W.S. How many case managers does it take to screw in a light bulb? *Hosp Community Psychiatry* 31:788-789, 1980.
- Dennis, M.L. Assessing the validity of randomized field experiments: An example from drug abuse treatment research. *Eval Rev* 14(4):347-373, 1990.
- Dennis, M.L.; Fairbank, J.A.; Bonito, A.J.; and Rachal, J.V. *Treatment Process Study Design*. Research Triangle Park, NC: Research Triangle Institute, 1991b.
- Dennis, M.L.; Fairbank, J.A.; Rachal, J.V.; Bohlig, E.M.; and Bonito, A.J. "Reducing Injection Drug Use Through Methadone Assisted Rehabilitation: Factors Other Than Methadone Dosage." Paper presented at the Third Annual National Institute on Drug Abuse National AIDS Research Demonstrations Conference, Washington, DC, October 29-November 1, 1991a.
- Dennis, M.L.; Karuntzos, G.T.; French, M.T.; Craddock, S.G.; and Hubbard, R.L. A randomly controlled pilot study of vocational services for methadone clients: Preliminary data from the Training and Employment Program (TEP) trials. Research Triangle Park, NC: Research Triangle Institute, 1992.
- Dennis, M.L.; Karuntzos, G.T.; McDougal, G.L.; French, M.T.; and Hubbard, R.L. *Developing Training and Employment Programs to Meet the Needs of Methadone Treatment Clients*. Research Triangle Park, NC: Research Triangle Institute, 1991c.
- Fairbank, J.A.; Dennis, M.L.; Rachal, J.V.; Bohlig, E.M.; and Bonito, A.J. "Training Counselors to Provide Comprehensive Drug Abuse Counseling." Paper presented at the Third Annual National Institute on Drug Abuse National AIDS Research Demonstrations Conference, Washington, DC, October 29-November 1, 1991.
- Food and Drug Administration, 21CFR130.48, 1972.

- Forchuk, C.; Beaton, S.; Crawford, L.; Ide, L.; Voorberg, N.; and Bethune, J. Incorporating Peplau's theory and case management. *J Prof Nurs* 27(2):35-38, 1989.
- Frances, R. Substance abuse. *JAMA* 265(23):3171-3172, 1991.
- Franklin, J.; Solovitz, B.; Mason, M.; Clemons, J.; and Miller, G. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- French, M.T.; Dennis, M.L.; McDougal, G.L.; Karuntzos, G.T.; and Hubbard, R.L. Training and employment programs in methadone treatment: Client needs and desires. *J Subst Abuse Treat*, in press.
- Garrett, K.L. *Community Resource Manual for PBA, Pittsburgh, PA*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- General Accounting Office. *Methadone Maintenance: Some Treatment Programs Are Not Effective: Greater Federal Oversight Needed*. Report to the Chairman, Select Committee on Narcotics Abuse and Control, House of Representatives. GAO/HRD-90-104. Washington, DC: General Accounting Office, 1990.
- Gerstein, D.R., and Harwood, H.J., eds. *Treating Drug Problems: A Study of Evolution, Effectiveness, and Financing of Public and Private Drug Treatment System*. Vol. 1. Washington, DC: National Academy Press, 1990.
- Ginzburg, H.M.; Allison, M.; and Hubbard, R.L. Depressive symptoms in drug abuse treatment clients: Correlates, treatment, and changes. In: Harris, L.S., ed. *Problems of Drug Dependence, 1983*. Proceedings of the 45th Annual Scientific Meeting, The Committee on Problems of Drug Dependence, Inc. National Institute on Drug Abuse Research Monograph 49. DHHS Pub. No. (ADM)84-316. Rockville, MD, 1984. pp. 313-319.
- Goodman, D. *Community Resource Manual for Milwaukee County Mental Health Complex, Milwaukee, WI*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- Graham, K., and Timney, C.B. Case management in addictions treatment. *J Subst Abuse Treat* 7:181-188, 1990.
- Harris, M., and Bergman, H. Misconceptions about the use of case management services by the chronic mentally ill: A utilization analysis. *Hosp Community Psychiatry* 39(12):1276-1280, 1988.
- Haverkos, H.W. Infectious diseases and drug abuse: Prevention and treatment in the drug abuse treatment system. *J Subst Abuse Treat* 8(4):269-276, 1991.
- Haverkos, H.W., and Lange, W.R. Serious infections other than human immunodeficiency virus among intravenous drug abusers. *J Infect Dis* 161:894-902, 1990.
- Hayward, B. *Evaluation of Vocational Assessment Procedures and the IWRP Process Used by State Vocational Rehabilitation Agencies*. Research Triangle Park, NC: Research Triangle Institute, 1989.

- Heath, J. *Directory of Community Services for Sisters of Charity Hospital, Buffalo, New York*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- Holland, W.W.; Detels, R.; and Knox, G. *Oxford Textbook of Public Health. Volume 3: Applications in Public Health*. 2d ed. New York: Oxford University Press, 1990.
- Hollister, R.G.; Kemper, P.; and Maynard, R.A. *The National Supported Work Demonstration*. Madison, WI: University of Wisconsin Press, 1984.
- Hubbard, R.L.; Marsden, M.E.; Rachal, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment: National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989.
- Hurley, W. *Directory of Community Services for Desire Narcotics Rehabilitation Center, Inc., New Orleans, LA*. Research Triangle Park, NC: Research Triangle Institute, 1989.
- Intagliata, J. Improving the quality of community care for the chronically mentally disabled: The role of case management. *Schizophren Bull* 8(4):655-674, 1982.
- Intagliata, J., and Baker, F. Factors affecting case management services for the chronically mentally ill. *Admin Ment Health* 2:75-91, 1983.
- Karuntzos, G.T.; Dennis, M.L.; and Norman, H.M. *Vocational Protocol Manual for Assisting Methadone Treatment Clients*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- Kurtz, L.F.; Bagarozzi, D.A.; and Pollane, L.P. Case management in mental health. *Health Soc Work J* 9:201-211, 1984.
- Lamb, H.R. Therapists—case managers: More than brokers of services. *Hosp Community Psychiatry* 31:762-764, 1980.
- Levine, I.S., and Fleming, M. *Human Resource Development: Issues in Case Management*. Rockville, MD: National Institute of Mental Health, 1987.
- McLellan, A.T.; Woody, G.E.; Luborsky, L.; and Goehl, L. Is the counselor an "active ingredient" in substance rehabilitation? An examination of treatment success among four counselors. *J Nerv Ment Dis* 176:423-430, 1988.
- Modrcin, M.; Rapp, C.A.; and Chamberlain, R. *Case Management With Psychiatrically Disabled Individuals*. Lawrence, KS: The University of Kansas School of Social Welfare, 1985.
- National Commission on AIDS. *The Twin Epidemics of Substance Use and HIV*. Washington, DC: National Commission on AIDS, 1991.
- National Institute on Drug Abuse. Case management and the creative use of service resource linkages in methadone treatment. In: "Training for Methadone Treatment Professionals." (Draft manual.) Rockville, MD: National Institute on Drug Abuse, Community Research Branch, 1990. pp. 16-17.
- National Institute on Drug Abuse. *National Household Survey on Drug Abuse: Main Findings 1990*. Rockville, MD: National Institute on Drug Abuse, 1991.

- Norman, H. *Community Resource Manual for San Jose, CA*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- Ogborne, A.C., and Rush, B.R. Specialized addictions assessment/referral services in Ontario: A review of their characteristics and roles in the addiction treatment system. *Br J Addict* 85:197-204, 1990.
- Pearlman, S. Early experiences with primary care. In: Glaser, F.B.; Annis, H.M.; Skinner, H.A.; Pearlman, S.; Segal, R.L.; Sisson, B.; Ogborne, A.C.; Bohnen, E.; Gazda, P.; and Zimmerman, T., eds. *A System of Health Care Delivery*. Vol.II. Toronto, Ontario: Addiction Research Foundation, 1984. pp.35-48.
- Perlman, B.B.; Melnick, G.; and Kentera, A. Assessing the effectiveness of a case management program. *Hosp Community Psychiatry* 36:405-407, 1985.
- Pincus, H.A. Patient-oriented models for linking primary care and mental health care. *Gen Hosp Psychiatry* 9:95-101, 1987.
- Rapp, C.A., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30:417-422, 1985.
- Rounsaville, B.J.; Kosten, T.R.; Weissman, M.M.; and Kleber, H.D. Prognostic significance of psychopathology in treated opiate addicts. *Arch Gen Psychiatry* 43:739-745, 1986.
- Sanborn, C.J. *Case Management in Mental Health Services*. New York: Hawthorn Press, 1983.
- Schlenger, W.E.; Dennis, M.L.; and Magruder-Habib, K.M. *Design for a National Evaluation of Model Demonstrations Linking Primary Care to Drug Abuse Services as a Step in Reducing the Spread of AIDS*. Research Triangle Park, NC: Research Triangle Institute, 1990.
- Stein, L.I., and Test, M.A. Alternatives to mental hospital treatment: Conceptual, model, treatment program, and clinical evaluation. *Arch Gen Psychiatry* 37:392-397, 1980.
- Sullivan, J. Case management. In: Talbott, J.A., ed. *The Chronically Mentally Ill*. New York: Human Sciences Press, 1981. pp.119-131.
- Texas Department of Mental Health and Mental Retardation. *Case Management Training Curriculum*, Austin, TX: Department of Mental Health and Mental Retardation, 1985.
- Timney, C.B., and Graham, K. A survey of case management practices in addictions programs. *Alcohol Treat Q* 6(3/4):103-127, 1989.
- Vargo, D. *Directory of Community Services for Pittsburgh, Pennsylvania*. Research Triangle Park, NC: Research Triangle Institute, 1991.
- Watkins, J.D.; Conway-Welch, C.; Creedon, J.J.; Crenshaw, T.L.; DeVos, R.M.; Gebbie, K.M.; Lee, B.J. III; Lilly, F.; O'Connor, J.C.; Primm, B.J.; Pullen, P.; SerVaas, C.; and Walsh, W.B. *Report of the Presidential Commission on the Human Immunodeficiency Virus Epidemic*. Submitted to the President of the United States. Washington, DC: Supt. of Docs., U.S. Gov Print. Off., 1988.
- Wechsberg, W.M.; Dennis, M.L.; Theisen, A.C.; and Rachal, J.V. "Differences in the Patterns and Chronicity of Drug Use in Outreach and Methadone: A

Comparison of IV Drug Users in Four Cities." Paper presented at the Third Annual National Institute on Drug Abuse National AIDS Research Demonstrations Conference, Washington, DC, October 29-November 1, 1991.

Weil, M.; Karls, J.; and Associates. *Case Management in Human Service Practice*. Washington, DC: Jossey-Bass, 1985.

Willenbring, M.L.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Applications of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. DHHS Pub. No (ADM)91-1766. Washington, DC: National Institute on Alcohol Abuse and Alcoholism, 1991.

Woody, G.E.; McLellan, A.T.; Luborsky, L.; and O'Brien, C.P. Sociopathy and psychotherapy outcome. *Arch Gen Psychiatry* 42:1081-1086, 1985.

ACKNOWLEDGMENTS

This chapter was developed with support from NIDA grants DA-7262-01 and DA-06383-02. This research would not have been possible without the cooperation, hard work, and in-kind financial contributions of the participating community providers. LaVerne Carpenter, Paul Ingram, Lou Mattia, Jim Nowak, Vernon Shorty, Dick Wiesen, and their respective staffs and clients at the William C. Segaloff Substance Abuse Center in Camden, NJ; PBA, The Second Step in Pittsburgh, PA; Santa Clara County Bureau of Drug Abuse Services in San Jose, CA; Sisters of Charity Hospital in Buffalo, NY; Milwaukee County Health Complex in Milwaukee, WI; and Desire Narcotics Rehabilitation Center in New Orleans, LA, collaborated in the MET and TEP trials on which this research is based.

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A Strengths-Based Model of Case Management/Advocacy: Adapting a Mental Health Model To Practice Work With Persons Who Have Substance Abuse Problems

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INTRODUCTION

A review of past efforts in the case management field and the body of literature that has resulted reveals a seemingly endless discussion of many fundamental aspects of this often imprecise, yet apparently timeless, social service intervention. Discussions have focused extensively on describing and defining case management (Roberts-DeGennaro 1987; Sullivan 1981) and implementing the intervention, that is, deciding what profession should implement case management in what setting and with what target population (Moore 1990; Johnson and Rubin 1983; Baker and Weiss 1984). Recent efforts have attempted quantitative measurement of outcomes (Fisher et al. 1988; Franklin et al. 1987; Borland et al. 1989), provided guidelines for utilizing specific case management models (Stein and Test 1980; Knoedler 1979), and attempted systematic comparisons of models (Reinke and Greenley 1986). Practice models have been general (O'Connor 1988) or specific to populations who are experiencing chronic mental illness (Rapp 1988; Kanter 1989), homelessness (Rog et al. 1987), and advanced age (Goodman 1987). One population that has received little attention is people with substance abuse problems.

A scarcity of theoretical and practice work has existed relative to case management with persons experiencing substance abuse problems. Graham and Birchmore Timney (1990) have translated some of the generic issues pertinent to case management into the field of substance abuse treatment, and Ogborne and Rush (1983) discussed issues of linkage and interagency cooperation in treatment services for problem drinkers as long ago as 1983. Although useful in establishing a theoretical base, these efforts still do not speak directly to a specific practice model of case management.

To help fill this void, a 1987 National Institute of Mental Health initiative funded 13 demonstration projects targeted at young adults with coexisting mental health and substance abuse problems. Of these 13 projects, 10 identified some form of case management as a primary service and provided a general description of the case management intervention (Teague et al. 1990). Given the target population of these projects, the case management services that are employed may have utility for work with substance abusers. While the findings of these projects are being compiled, the substance abuse field lacks a practice model of case management.

PROJECT BACKGROUND

An opportunity to explore case management with persons experiencing substance abuse problems presented itself in the form of a recent National Institute on Drug Abuse (NIDA) initiative. In response to that initiative, the Wright State University School of Medicine, through its Substance Abuse Intervention Programs, developed a demonstration project that would address the interrelated problems of early withdrawal from substance abuse treatment, noncompliance with treatment regimens, and resulting poor treatment outcomes. The Enhanced Treatment Through Induction and Case Management Project (Enhanced Treatment Project) uses a continuum of complementary enhancement techniques that include (1) pretreatment induction procedures in the form of a weekend intervention program and (2) intensive case management/advocacy (CM/A) strategies utilizing a strengths perspective. The latter enhancement technique, CM/A, is the focus of this chapter.

CM/A was chosen as an enhancement in this project because it appears that many patients quit drug abuse treatment and/or do not comply with treatment regimens for reasons that can be addressed through CM/A services. The causes of poor retention rates, noncompliance with treatment regimens, and overall poor treatment outcome are complex and include both patient and system dimensions. Patient issues include an interplay of physiological, psychological, and social factors; system dimensions include the types of treatment models employed, staff-to-patient ratios, and the comprehensiveness with which patient dimensions are addressed during treatment. By definition, CM/A interventions (e.g., coordination, advocacy, planning) are structured to affect the interface between clients and (treatment) systems.

The traditional emphasis that treatment programs place on substance abuse as a primary, almost exclusive, condition is an example of an issue that may benefit from CM/A intervention. The often repeated notion of substance abuse as a "primary condition" has merit when attempting to focus a patient's attention

on treatment and impress on him or her the serious nature of the problem. However, many patients entering treatment have other needs (e.g., housing, employment, and education) that may affect their ability to engage in the treatment process. Frequently, these other needs are neglected in the push to "get people straight." CM/A strategies are designed to bridge the ground between "therapeutic" and "resource acquisition" interventions and to assist directly with resource acquisition.

Despite the use of CM/A with similar populations and evidence that case management and patient advocacy activities serve a powerful function in helping to encourage substance abusers to stay in treatment and to realize treatment goals (Kofoed et al. 1986), little systematic work to determine the connection has been undertaken. It is a premise of the Enhanced Treatment Project that implementation of CM/A activities will improve treatment retention and compliance by assisting patients with acquiring the necessary resources and also by serving as a therapeutic intervention. Coincidentally, this project will provide an excellent forum in which to begin a systematic exploration of the larger issues involved with CM/A work with substance abusers.

THE ENHANCED TREATMENT PROJECT

The project will recruit 600 veterans who apply for substance abuse treatment at the Polysubstance Rehabilitation Program (PRP), a service of the Department of Veterans Affairs Medical Center (VAMC) in Dayton, OH. To determine the effectiveness of the project's CM/A (and pretreatment induction) approaches, veterans will be randomly assigned to (1) pretreatment induction and CM/A, (2) CM/A only, (3) pretreatment induction only, or (4) no pretreatment induction and no CM/A. After assignment, all veterans will participate in standard inpatient or outpatient treatment programs at PRP. During initial screening for the project and again during the intake interview, veterans review informed consents that outline their potential participation in the project. Veterans receive a stipend of \$30 in return for their participation in several hours of interviews at intake and at 6-, 12-, and 18-month followup sessions. All veterans in the project have the opportunity to participate in human immunodeficiency virus (HIV) education and testing.

To date, 77 male substance abusers have been recruited into the project. Seventy-seven percent are African-American, 24.6 percent have a trade or skill, and 52.8 percent worked 5 or fewer days in the month prior to entering treatment. Only 35 percent are married, but most live with a significant other and children (72.7 percent). Many have chronic medical problems (e.g., lower back problems, hypertension, ulcers) that require treatment (42.1 percent), have been convicted of a serious crime (57.5 percent), or have a comorbidity that

required psychiatric treatment (27.3 percent). Sixty-one of the seventy-seven subjects have used cocaine in the 30 days before treatment, 55 of whom describe cocaine as their drug of choice. Ninety-five percent of the cocaine-using veterans have used crack cocaine.

CM/A IN THE ENHANCED TREATMENT PROJECT

The model of CM/A used in this demonstration project is based on a strengths approach developed by Rapp and Chamberlain (1985). In its original application, the Strengths Perspective of Case Management/Advocacy was employed to assist a population of persons with mental illness to make the transition from institutionalized care to independent living. The model is predicated on five principles, foremost of which are allowing individuals direct control over their search for crucial resources and assisting individuals to use their strengths and assets as the vehicle for acquiring those resources.

Adaptation of the Strengths Perspective to work with persons experiencing substance abuse problems seemed appropriate at theory and practice levels. Persons with mental illness and those with substance abuse problems are generally disenfranchised. Both groups generally suffer from a lack of needed resources, such as housing, jobs, basic living skills, and education. Mention of both groups generally provokes negative stereotypes, unflattering remarks, and even fear.

Not coincidentally, the institutions created to treat the two groups are similar. Psychiatric and substance abuse treatment have generally been based on control and conformity. Until the federally sanctioned and third-party payer-mediated deinstitutionalization of the 1970s and 1980s, respectively, most treatment was conducted in hospitals, institutions, and other residential settings. The nature of the treatment is based on a medical model that emphasizes the professional's preeminence and the patient's acquiescence. The most prevalent theories of treatment have been problem-oriented models based on an individual's perceived pathology and resulting diagnosis.

Early research with the model was conducted with a small group of 19 patients in a noncontrolled trial (Rapp and Chamberlain 1985). In that initial evaluation, more than 61 percent of resource acquisition-oriented client goals were achieved with a client population generally seen as minimally capable of independent living. This early indication of effectiveness, an emphasis on the positive aspects of human behavior, and the commonalities implicit in the two populations are attributes that formed the basis for adopting the Strengths Perspective to work with persons who have substance abuse problems.

Two supplements to the Strengths Perspective were made. First, the project's operational definition of CM/A was based on the work of Intagliata (1982) as well as on the principles of the Strengths Perspective. In this project, CM/A is defined as

assisting the patient in re-establishing an awareness of internal resources such as intelligence, competence and problem solving abilities; establishing and negotiating lines of operation and communication between the patient and external resources; and advocating with those external resources in order to enhance the continuity, accessibility, accountability and efficiency of those resources.

It is noteworthy that, when substance abusers are already in treatment, the treatment system qualifies as a potential target of CM/A activities.

Second, the conceptual stages of CM/A that guide strengths-based interventions are those elucidated by Ballew and Mink (1986) in "Case Management in the Human Services." In addition to guiding the order of interventions, these stages (engagement, assessment, planning, accessing, advocacy, and coordination) will be used as the basis for differentiating and recording the time spent by case manager/advocates in various functions. These supplements do not compromise the overall intent or philosophy of the model.

THE CM/A PROCESS

Case manager/advocates receive notice of those veterans who are assigned to one of the CM/A groups (CM/A only or pretreatment induction and CM/A) on the same day that the veteran enters either inpatient or outpatient treatment at PRP. The case manager/advocate's initial contact with a veteran is usually a brief meeting in which the overall project is once again explained and the worker introduces the concepts of "case management" and "strengths approach." The case manager/advocate cites examples of the kinds of activities that fall within the purview of CM/A, such as employment searches and assistance with housing. Above all else, the case manager/advocate leaves this first contact having offered to assist the veteran in some immediate, tangible manner. Having just entered treatment, many veterans have important matters that need to be put in order, such as retrieving clothing from a former residence, contacting family members, or advising probation officers of the veteran's entry into treatment. This immediate and tangible offer of assistance begins the process of engagement and models the action-oriented nature of the relationship.

During the next three to four contacts with the veteran, the case manager/advocate completes a Strengths Assessment, not as a structured interview but in an open-ended, discussion format. The exploration of past, often forgotten personal assets is guided generally by an examination of nine "life domains," which include life skills, finances, leisure activities, relationships, living arrangements, occupation/education, health, internal resources, and recovery. However, one note about both worker and veteran expectations during these early contacts seems in order.

Before their first contact with the veteran, case manager/advocates are instructed not to read the veteran's medical record and to avoid detailed discussion of the veteran with treatment staff. This somewhat forced isolation is intentional; case manager/advocates should strive to hear the veteran's goals and aspirations before they hear evidence of his past problems, mistakes, or weaknesses. After these early contacts with the veteran, case manager/advocates are unlikely to be sabotaged in their thinking by learning of the veteran's diagnosis or by hearing a recounting of the veteran's "sordid" past.

Persons with substance abuse problems are programed by their own emotions and society's responses to their problems to focus on the negative. Veterans who have been in treatment previously are especially used to the process of doing fourth- and fifth-step work as is done Alcoholics Anonymous, that is, making a moral inventory and admitting their "wrongs." During their work with veterans, case manager/advocates frequently will need to gently prod the individual to stay focused on strengths and accomplishments instead of recounting past problems.

As the case manager/advocate and veteran are nearing completion of the engagement stage of their relationship, the veteran will begin to define those goals on which he would like to work. The only structure imposed on the goal-setting process is the case manager/advocate's refusal to participate in any goals that are destructive to the veteran or to others, such as using drugs. Work on goals is always guided by a written plan. The Case Management Plan is straightforward in intent, yet elaborate in the functions that it can serve. The plan provides the veteran and case manager/advocate with a format for identifying broad goals, setting measurable objectives, and creating strategies that can be implemented to accomplish the objectives. Target and review dates are set for all objectives and strategies to prompt worker and veteran to review progress toward completion, revise plans, and/or drop unwanted or unsuccessful activities.

All plan goals are categorized as fitting into one of the nine life domains. As veterans enter the project, most of their work centers on goals in the

living arrangements, recovery, and occupation/education life domains. As the CM/A relationship proceeds, relationships and internal resources (confidence, problemsolving) issues begin to receive increasing attention. Although the Case Management Plan's primary function is as a goal-setting tool, it also has utility as a research instrument and as an organizational and supervisory device. These functions are described more fully later in this chapter.

CM/A activities may continue for as long as 6 months, during which time veterans may move from inpatient or outpatient treatment to several other modalities of care. Veterans who need long-term stabilization may enter PRP's extended care program; other veterans may reside in their own homes or in the domiciliary (a transitional living environment at VAMC) while they participate in aftercare treatment. In line with Strengths Perspective principles, case manager/advocates provide aggressive outreach throughout the relationship and assist veterans in networking with informal supports such as self-help groups, neighbors, and friends.

During the course of CM/A activities, workers maintain close contact with the veteran's therapist and other VAMC staff members who are involved with the veteran. As the veteran moves from residential status on VAMC grounds, the case manager/advocate assumes a greater degree of contact with non-VAMC services to assist the veteran with securing needed resources. It has been the project's experience at this juncture that many of the resources that this population needs are available; what is problematic is the extreme fragmentation of those resources.

MEASURING OUTCOME

Project participants undergo extensive interviews at intake that include completion of the Addiction Severity Index, Enhanced Treatment Project Intake Form, Symptom Checklist-90, and a readiness-for-treatment scale. These instruments examine variables such as drug use, criminality, psychological functioning, occupational and vocational performance, stability of living arrangements, and HIV risk behaviors. All veterans in the project are reinterviewed at 6, 12, and 18 months after intake to determine the effects of project interventions. In addition, various process evaluations are used to segregate and measure various pretreatment, CM/A, and treatment issues.

In addition to these broad measures of functioning, a variety of specific techniques developed to analyze the CM/A interventions are being utilized. Taking cues from the work of Austin and Caragonne (unpublished manuscript), the amount of time spent on core case manager/advocate functions is measured. Case manager/advocates also maintain "advocacy logs," which

illustrate their interaction with both VAMC and community agencies and services. These documents assist in bringing research on CM/A with persons who have substance abuse problems into the mainstream of research on case management.

The Strengths Assessment and Case Management Plan are being used with patients assigned to either of the two CM/A tracks. In addition to its function as "roadmap" for case manager/advocate-patient interaction, the Case Management Plan provides information useful to research, supervision, and caseload planning goals. By receiving weekly printouts that highlight uncompleted objectives and strategies, case manager/advocates and supervisors can check on the status of individual veterans on their caseloads. These reports also show the amount of work being conducted in the various life domains, the frequency of goals being completed, and the relationship between various patient profiles and their success in completing goals.

A Resource Database and Objectives/Strategies Database assist case manager/advocates with their work with veterans. The Resource Database holds a comprehensive listing of both VAMC and community resources that is cross-indexed along several parameters to allow for ease of use. The Objectives/Strategies Database is a comprehensive list of successful objectives and strategies that can be used in working toward completion of goals in any of the life domains.

TRAINING OF CASE MANAGER/ADVOCATES

All case manager/advocates in the Enhanced Treatment Project must have at least a bachelor's degree in a human services major such as social work, sociology, psychology, or rehabilitation counseling and must possess at least 5 years of social service agency experience. Although they will be interacting with persons who have substance abuse problems, project case manager/advocates need not be extensively experienced in working with this population. The project's original contingent of three case manager/advocates ranged from having a great deal of experience with persons who were substance abusers to having no experience. Observations of those workers without prior substance abuse experience have not revealed significant disparities in their delivery of strengths-based interventions. The current uniformity of service delivery among professionals with diverse backgrounds speaks to the nature of the training that preceded initiation of the project.

Initial training focused on a detailed examination of CM/A. "Case Management in the Human Services" (Ballew and Mink 1986) served as the primer for the case manager/advocate's review of CM/A. The detailed exploration of the

stages of case management—engagement, assessment, planning, accessing resources, advocacy, and coordinating—and the specific techniques available to accomplish each stage are exemplary. Ballew and Mink's work also devotes an entire chapter and frequent commentary to "internal resources," another term for describing "strengths." As a result of their description of the techniques useful in accessing a client's internal resources, this concept was incorporated as a life domain in the Strengths Perspective.

After receiving a thorough overview of CM/A, case manager/advocates were exposed to the Strengths Perspective of Case Management/Advocacy. Training manuals developed by Modrcin and colleagues (1985) were utilized, and works pertinent to the Strengths Perspective were reviewed (Kisthardt and Rapp 1989; Rapp and Wintersteen 1989). Case manager/advocates and other project staff members had the opportunity to spend 2 days with Ronna Chamberlain, Ph.D., M.S.W., to clarify practice issues, which included implementing a strengths perspective within a medical model-based treatment program, avoiding reframing pathology into strengths, and maintaining morale among case management staff and patients.

A great deal of training time was also spent on generic issues of confidentiality and how confidentiality could be maintained as part of a research project operating within a host institution. Case manager/advocates were also introduced to research concepts and instruments. Treatment plan strategies and goal-setting techniques were explored against a strengths-approach background.

IMPLEMENTATION ISSUES

It was anticipated that project case manager/advocates would need to eschew the role of "therapist" if they were to be effective in their role as "case manager/advocate." Past authors (Lamb 1980; Kanter 1989; Wiltse and Remy 1982) have examined the debate over whether a client's therapist can function effectively as a case manager/advocate. In this project, the issue would have been whether a case manager/advocate could function effectively as a therapist. Given the time constraints, project mission, and treatment system characteristics, it was necessary to resolve the issues at the outset of the project. The likely result of not doing so would have been that CM/A activities would have been neglected and role ambiguity would have resulted. Resolution of this issue was difficult.

Given their training and professional experience, case manager/advocates initially had difficulty in divorcing themselves from the role of therapist. This difficulty seemed to be a response to the perception that veterans would

frequently be in crisis and, hence, would need crisis intervention and/or longer term therapy as opposed to a focus on resource acquisition. Although a thorough examination of this issue is beyond the scope of this chapter, brief mention of two factors that led to resolution should be noted. First, therapists at PRP are available to address those issues that are typically seen as central to substance abuse treatment, for example, recognizing and admitting to powerlessness over substances and developing a recovery plan focusing on abstinence. Case manager/advocates are able to devote their full attention to assisting veterans with pursuing necessary resources. As a result of this exclusive focus on systematic implementation of Strengths Perspective principles and resource acquisition activities, the number of crisis episodes experienced by these veterans was significantly reduced.

An issue related to that of therapist vs. case manager/advocate arose over whether and to what degree recovery issues were legitimate areas of work for case manager/advocates. After lengthy discussions among scientific staff members, case manager/advocates, and veterans who were part of the project's pilot phase, "recovery" was added as a life domain. Although case manager/advocates do not function as substance abuse therapists, it is inevitable that the issue of treatment will affect resource acquisition activities.

It was understood very early in the project that using CM/A interventions based on a strengths approach would potentially create conflict in the treatment environment. As with most substance abuse treatment settings, PRP is oriented to a disease concept or medical model approach to treating substance abuse problems. Although the relative merits and weaknesses associated with this model have long been debated, one aspect of the model quickly becomes apparent: Practitioners of the disease concept focus on pathology, illness, and what is diseased, as defined by the name of the model, an approach to substance abuse treatment that is the antithesis of the Strengths Perspective of CM/A.

Two remedies to this tension seemed possible. Either case manager/advocates would try and change the treatment system's orientation to a strengths approach or they would learn to integrate the approach into the larger system. The latter course was chosen based on earlier experiences with the model. R. Chamberlain (personal communication, June 1991) described efforts to adapt the entire psychiatric treatment process (including prescribing practices and use of restraints) in the Kansas State hospital system to one based on a Strengths Perspective. Despite a legislative mandate to implement a Strengths Perspective, at least as far as CM/A was concerned, tensions between practitioners of the two models became more the focus of attention than were the CM/A activities. Following the solution decided on in

Kansas, the case manager/advocates in the Enhanced Treatment Project operate on a "parallel course" to that of primary treatment. As might be expected, these parallel interventions, disease-based primary treatment and strengths-based CM/A, will occasionally come into conflict. It is at the point of conflict that the need for advocacy is most acutely felt.

CONCLUSION

To some social service practitioners, the notion of applying a purely strengths-based model of CMA to any population might seem admirable, yet hopelessly idealistic. To apply such a model to a population that is generally regarded as intractable and hopelessly mired in problems might seem foolhardy. At this point in the Enhanced Treatment Project, data are not available to either support or refute the use of the Strengths Perspective with persons who have substance abuse problems. What is available is anecdotal evidence that indicates patient support of an approach that basically asks them, "What is healthy about you and how can you use those assets to secure the resources you need?" If outcome measures such as retention in treatment, reduction in relapse rates, and improvement in accessing important resources support use of the Strengths Perspective with this population, the substance abuse field may need to rethink its longstanding preoccupation with disease and illness.

REFERENCES

- Austin, D.M., and Caragonne, P. "A Comparative Analysis of Twenty-Two Settings Using Case Management Components." The Case Management Research Project. Austin, TX: School of Social Work, University of Texas, unpublished manuscript.
- Baker, F., and Weiss, R.S. The nature of case manager support. *Hosp Community Psychiatry* 35(9):925-928, 1984.
- Ballew, T.R., and Mink, G. *Case Management in the Human Services*. Springfield, IL: Charles C Thomas, 1986. 328 pp.
- Borland, A.; McRae, J.; and Lycan, C. Outcomes of five years of continuous intensive case management. *Hosp Community Psychiatry* 40(4):369-376, 1989.
- Fisher, G.; Landis, D.; and Clark, K. Case management service provision and client change. *Community Ment Health J* 24(2):134-142, 1988.
- Franklin, J.L.; Solovitz, B.; Masson, M.; Clemons, J.R.; and Miller, G.E. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- Goodman, C.C. The elderly frail: Who should get case management? *J Gerontol Soc Work* 11(3/4):99-113, 1987.
- Graham, K., and Birchmore Timney, C. Case management in addictions treatment. *J Subst Abuse Treat* 7:181-188, 1990.

- Intagliata, J. Improving the quality of community care for the chronically mentally disabled: The role of case management. *Schizophr Bull* 8(4):655-674, 1982.
- Johnson, P.J., and Rubin, A. Case management in mental health: A social work domain? *Soc Work* 28:49-55, 1983.
- Kanter, J. Clinical case management: Definition, principles, components. *Hosp Community Psychiatry* 40(4):361-368, 1989.
- Kisthardt, W.E., and Rapp, C.A. *Bridging the Gap Between Principles and Practice: Implementing a Strengths Perspective in Case Management*. Lawrence, KS: University of Kansas School of Social Welfare, 1989.
- Knoedler, W.H. How the training in community living program helps patients work. *New Dir Ment Health Serv* 2:57-66, 1979.
- Kofoed, L.; Tolson, R.; Atkinson, R.; Toth, R.; and Turner, J. Outpatient treatment of patients with substance abuse and coexisting psychiatric disorders. *Am J Psychiatry* 143(7):867-872, 1986.
- Lamb, H.R. Therapist-case managers: More than brokers of services. *Hosp Community Psychiatry* 31(11):762-764, 1980.
- Modrcin, M.; Rapp, C.A.; and Chamberlain, R. *Case Management With Psychiatrically Disabled Individuals: Curriculum and Training Program*. Lawrence, KS: University of Kansas School of Social Welfare, 1985.
- Moore, S.T. A social work practice model of case management: The case management grid. *Soc Work* 35(5):444-448, 1990.
- O'Connor, G.G. Case management: System and practice. *Soc Casework: J Contemp Soc Work* February:97-106, 1988.
- Ogborne, A.C., and Rush, B.R. The coordination of treatment services for problem drinkers: Problems and prospects. *Br J Addict* 78:131-138, 1983.
- Rapp, C.A. *The Strengths Perspective of Case Management With Persons Suffering From Severe Mental Illness*. Lawrence, KS: University of Kansas School of Social Welfare, 1988.
- Rapp, C.A., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30:417-422, 1985.
- Rapp, C.A., and Wintersteen, R. The strengths model of case management: Results from twelve demonstrations. *Psychosoc Rehabil J* 13(1):23-32, 1989.
- Reinke, B., and Greenley, J.R. Organizational analysis of three community support program models. *Hosp Community Psychiatry* 37(6):624-629, 1986.
- Roberts-DeGennaro, M. Developing case management as a practice model. *Soc Casework: J Contemp Soc Work* 68(6):466-470, 1987.
- Rog, D.; Andranovich, G.; and Rosenblum, S. *Intensive Case Management for Persons Who Are Homeless and Mentally Ill*. Vol. I. Washington, DC: Cosmos Corporation, 1987.
- Stein, L.I., and Test, M.A. Alternative to mental hospital treatment. *Arch Gen Psychiatry* 37(4):392-397, 1980.

- Sullivan, J.P. Case management. In: Talbott, J.A., ed. *The Chronic Mentally Ill: Treatment, Programs, Systems*. New York: Human Sciences Press, 1981. pp. 119-131.
- Teague, G.B.; Schwab, B.; and Drake, R.E. *Evaluation of Services for Young Adults With Severe Mental Illness and Substance Use Disorders*. Alexandria, VA: National Association of State Mental Health Program Directors, 1990.
- Wiltse, K., and Remy, L. *Conceptual Statement on Case Management for Family and Children's Services*. Child Welfare Services Grant 426. Tempe, AZ: Arizona State University School of Social Work, 1982.

ACKNOWLEDGMENTS

This project is being supported by NIDA research demonstration grant DA-06944.

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Case Management: An Alternative Approach to Working With Intravenous Drug Users

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INTRODUCTION

The development of substance abuse treatment approaches that improve treatment access and outcome for intravenous drug users (IVDUs) has become critical in view of the increased risk and incidence of acquired immunodeficiency syndrome (AIDS) within the IVDU population. Recent national data indicate that 27 percent of people with AIDS are IVDUs (National Center for Health Statistics 1991). Cumulative surveillance data on AIDS cases within the city of Chicago indicate that IVDUs account for 21 percent of the total AIDS cases (City of Chicago Department of Health 1992). In a comparison of human immunodeficiency virus (HIV) seropositivity rates in a 2-year period across seven major cities in the United States, significant increases in HIV seropositivity among IVDUs were found only in Chicago (Battjes et al. 1991).

Within the IVDU population, HIV is transmitted primarily through the sharing of needles and other drug paraphernalia (Battjes and Pickens 1988). In a recent ethnographic study, Hopkins (1988) showed that 53 percent of IVDUs still were sharing needles. He also found that more than 50 percent of IVDUs either do not clean their needles or clean them ineffectively. Des Jarlais and colleagues (1988) found that the more frequently a substance abuser was injecting drugs, the more likely he or she was to share drug-using equipment with someone else, and the more likely he or she was to be exposed to HIV.

One way of reducing the spread of AIDS within the IVDU population is to increase their access to effective treatment. Increased demand for substance abuse treatment, coupled with reduced funding for these services, however, has made it difficult for IVDUs to access needed treatment. Within the Chicago

area, an IVDU may wait between 4 and 12 weeks for an available treatment slot. Even if an IVDU enters treatment, risk for relapse remains high.

In recent years, there has been a resurgence in the use of a case management approach to treat non-drug-using clients who have chronic, multiple problems. Utilizing the core case management functions of assessment, planning, linking, monitoring, and advocacy (Bagarozzi and Pollane 1984), clients receive services that address their needs in a coordinated, integrated, and timely fashion. IVDUs may be ideally suited to a case management approach because they are characterized by chronic, multiple problems (e.g., drug-related, AIDS-related, physical, psychological, economic, legal, housing). Thus, extraordinary coordination is necessary with a variety of systems, including drug treatment, medical, legal, welfare, vocational, and educational systems.

DESCRIPTION OF CASE MANAGEMENT

Several traditional social work and mental health case management models exist. These models, some of which originated in the 19th century, have many different constructs, ranging from the case manager being simply a referral source, to the case manager being a broker of services, to the case manager—after assessment and subsequent necessary steps—being a provider of services.

The literature is replete with descriptions of what case management is, what the case management functions are, what the roles of a case manager are, and what appropriate caseload sizes are. Little empirical research exists, however, as to the effectiveness of case management (Fisher et al. 1988). According to Dybal (1980), the contemporary concept of case management evolved in the 1960s. He indicated that the proliferation of categorical social programs during this era had resulted in a fragmented and inefficient services delivery system. Service integration was designated as a priority by then Secretary of the U.S. Department of Health, Education, and Welfare Elliot Richardson. Thus, Dybal defined case management as "a system of locating, coordinating, and monitoring a defined group of services for a defined group of people" and as a "process whereby a fixed point of responsibility within a governmental agency, or its designee, is assigned to coordinate a comprehensive, community-oriented plan of services and informal supports for an individual or family."

Others have defined the case management function in slightly different words, but the definitions are variations on the same theme. Bagarozzi and Pollane (1984) were somewhat more specific about the functions of a case manager when they recognized case management as providing five basic services:

(1) assessment, (2) planning, (3) linkage, (4) monitoring, and (5) advocacy. Austin and Caragone (1988) defined case management as a "systematic problem-solving process, consisting of a series of sequentially related tasks aimed at delivering a variety of services to a client."

Some writers have expanded the definition of case management beyond the function of the case manager to include the desired goal of case management—a client's independent living. Harris and Bergman (1987, p. 296) presented this approach in writing:

The role of the case manager is generally seen as one of coordinating and overseeing a patient's overall treatment. In this sense, case management, while integrally related to it, is a set of functions independent of the treatment itself.

We are suggesting that the process of effective case management can enhance patients' own capacities to cope and function in the world.

Roberts-DeGennaro (1987, p. 470) also talked about clients controlling their own lives as a result of case management: "A successful case manager enables clients to control their lives to the fullest extent possible. The case manager must develop or have access to an existing network of available resources to use on behalf of a client. Resources are often, however, inadequately supplied, insufficiently comprehensive, or of poor quality."

Anthony and coworkers (1988, p. 222) wrote:

Case management is viewed as a process by which the person with severe psychiatric disability is supported in negotiating for the various services that he wants and needs. Four unique activities are identified as performed by the case manager: connecting with clients; planning for services; linking clients with services; and advocating for service improvements.

Vintner (1969) looked at case management in terms of a three-step process. The first stage is customarily termed *intake*, the process by which a potential client achieves client status. On the client's part, this often involves some kind of presentation of himself or herself and his or her problem or "need." On the case manager's part, this typically involves some assessment of the client and the client's problem—a preliminary diagnosis—and of the adequacy of resources available to resolve this problem.

The second stage may be identified as *diagnosis and treatment planning*. It marks a more rigorous and exacting assessment by the case manager of the client's problem, of his or her capacities for help and change, and of the various resources that might be marshalled in this effort. Diagnosis and treatment planning involves a preliminary statement of the treatment goal and also involves a preliminary plan of the general ways in which this helping process will be undertaken and of the general directions in which it will be guided.

The third stage is *treatment*. A treatment goal is specified; that is, that state or condition that the case manager and client would like to achieve at the end of a successful treatment sequence is determined. Treatment services that are likely to result in this end state or condition are provided to the client often through referral to appropriate agencies.

Because people who have disabilities and a variety of needs have difficulty negotiating various service systems and because these people are usually awed by the bureaucracy of such systems, "linking" becomes an extremely important case management function. Anthony and colleagues (1988, p. 220) supported the importance of this aspect of case management:

Case management services are activities aimed at linking the service system to a consumer and coordinating the various system components in order to achieve a successful outcome. The objective of case management is continuity of services . . . Case management is essentially a problem-solving function designed to ensure continuity of services and to overcome system rigidity, fragmented service, misutilization of certain facilities and inaccessibility.

Cohen and coworkers made the point that linking does not just mean helping a client to access a needed service, but it also means the ongoing monitoring of the service delivery to ensure the service is available in the necessary degree and quality (Cohen et al. 1988, p. 223).

The heart of case management is the linking activity. When linking clients to services, the case manager arranges for the client's use of preferred service providers. The linking activity is more than referring and forgetting. The case manager presents the client's assets and overcomes objections to ensure the service provider's acceptance of the client. After the client has been accepted for services, the case manager

monitors whether or not the client is being assisted and, if not, implements action steps to remove any barriers to service use.

Whereas linking seems to be an obviously needed and important case management activity, locating and identifying services with which to establish linkage is a difficult and time-consuming activity for case managers. Franklin and colleagues (1987) speculated that "while the linking function of case management is crucial, the number and types of community resources that exist to which a case manager could link a client may well affect the extent to which a case manager can impact on outcome measures."

As stated earlier, case management has a long history of use in a variety of social work conditions. Another application of this intervention might be in the treatment of the substance abusers. Allison and coworkers (1985, p. 9) in a National Institute on Drug Abuse research monograph said:

Dole and Nyswander (1965) have held that supportive social services such as psychotherapy, vocational training, and educational programs are essential parts of treatment for heroin addiction. Newman (1977) agreed that methadone by itself cannot be a complete treatment for heroin addiction, but also pointed out that the kinds of services needed and the special role of psychological services are still subjects of considerable debate. Lowinson and Millman (1979) asserted that "severe social and psychological disability is frequently a product of the drug-dependent life" and appropriate services are necessary to overcome these disabilities. Thus, the basic approaches or policies of most methadone programs emphasize physiological stabilization and the provision of resources to permit rehabilitation.

CASE MANAGEMENT MODEL FOR SUBSTANCE ABUSERS

The case management model used in the Interventions Case Management Study (ICMS) is an amalgamation of several social work and mental health models; the project began in November 1989 and will be completed in September 1994. (Interventions is an Illinois not-for-profit corporation that provides a full continuum of treatment services to substance abusers.) The Interventions model positions the case manager in the role of generalist. In this role the case manager provides five basic functions: assessment, planning, linking, monitoring, and advocacy (Bagarozzi and Pollane 1984). More particularly, the case manager provides accurate needs assessment for

the client, development of an individualized case management plan, linkage with a variety of treatment providers and other services that are selected to address individual client needs, monitoring of the process of treatment and service delivery, and advocacy when needed.

To perform these functions, the case manager initiates an assessment of the client's strengths, needs, and potential solutions to his or her problems. Then, a case management plan that addresses the client's treatment and other resource needs is developed. The Interventions model limits caseload size to 15 clients per case manager. This allows the case manager time for networking with treatment and other resource providers. One goal of the project is to assist the client with developing skills that he or she can use to access community resources independently.

Once treatment begins, the case manager works closely with the client's primary counselor to ensure that a treatment plan is developed. Part of the function of a case manager is to monitor not only that the client is complying with the treatment provider but also that the provider is fulfilling its role in meeting the client's treatment needs. If the "fit" between the provider and the client is not appropriate, the case manager is responsible for seeking an alternative treatment placement.

The case manager has access to service delivery dollars that allow the case manager to expand services in the public sector as well as to purchase treatment in the private sector if an appropriate publicly funded placement is not available. The case manager also is concerned about nontreatment issues that confront the client and inhibit his or her ability to make progress in treatment (e.g., lack of housing, food, or transportation or poor health). Again, on a short-term basis, the case manager has financial resources to purchase services unavailable in the public sector that will ameliorate these conditions.

Service delivery dollars are distributed on the basis of clients' service needs, availability of services in the public sector to meet those needs, and the clients' ability to pay for the needed services. Some case-managed clients never require service delivery dollars, whereas other clients initially depend on service delivery dollars to meet treatment and some basic living needs. The case manager uses available service delivery dollars only until the service can be provided by a public-sector agency or until the client can assume financial responsibility for services received. With the use of service delivery dollars, the case manager attempts to capitalize on the client's current motivation for treatment by reducing any barriers (client, environmental, and treatment systems barriers) that interfere with access to treatment.

The role of the case manager also is emphasized in relapse prevention, relapse interruption, and recapture. Case managers attempt to provide a unique continuity-in-care for clients. The case manager actively searches for a client who is not attending treatment and attempts to reengage the client in identifying current needs and developing a constructive plan of action. The case manager attempts to work with the client in relapse to develop a new solution to an old problem. The case manager's process of working with clients is directed at helping clients to empower themselves, learn problemsolving skills, and develop new options for dealing with problems in their full life context.

In summary, the Interventions case management model, as a process, is an orderly, well-planned orchestration of individualized services needed to facilitate a client in functioning as normally as possible.

RESEARCH STRATEGIES USED FOR ASSESSING THE CASE MANAGEMENT MODE

The Interventions research study was designed to evaluate the effectiveness of a case management approach compared with standard treatment in (1) improving IVDUs' access to treatment, retention in treatment, and completion of treatment; (2) reducing AIDS high-risk drug behaviors among IVDUs; (3) providing treatment experiences and services to IVDUs consistent with their presenting needs and problems; (4) reducing posttreatment relapses and improving responses to those relapses (e.g., reinstitute treatment); and (5) increasing the cost-effectiveness of treatment.

In the ICMS, a longitudinal matched control design is used to test the hypotheses. A total of 300 IVDUs seeking publicly funded treatment will be enrolled in the study. IVDUs are matched according to gender, ethnicity, and age; assigned to the case-managed condition ($n=150$) or to standard-treatment condition ($n=150$); and followed for 3 years.

Subject Recruitment and Enrollment

Subjects are recruited for participation in the study following U.S. Department of Health and Human Services (HHS) guidelines from the Interventions Medical Referral Services (IMRS). IMRS is a central intake program that provides initial medical evaluations for about 95 percent of the IVDUs entering Chicago-area publicly funded treatment. Approximately 8,000 new and reentering clients are seen by the IMRS staff annually. Demographically, the IMRS client population is similar to other national, large-scale substance abuse treatment outcome samples (e.g., Hubbard et al. 1989; Simpson and Sells 1982). Minorities

account for 62 percent of the clients (54 percent are African-American, and 8 percent are Hispanic), and females account for 33 percent of the clients. Furthermore, the IMRS client population includes groups (minority, male, and female IVDUs) who especially are at risk for contracting AIDS. Cumulative surveillance data on AIDS cases within the city of Chicago indicate that IVDUs account for 21 percent of the total AIDS cases; minorities account for 56 percent of the AIDS cases; and females account for 10 percent of the total AIDS cases (City of Chicago Department of Public Health 1992).

To reflect the demographic characteristics of clients entering treatment, sampling is done to maintain about a 1:3 female-to-male ratio and about a 1:2 nonminority-to-minority ratio. Subjects are matched according to gender, ethnicity, and age. Within the matched pairs, subjects are randomly assigned to the standard-treatment condition ($n=150$) or to the case-managed condition ($n=150$).

IVDUs who contact IMRS (in person or via telephone) seeking substance abuse treatment are referred to a research interviewer for a prescreening interview in which the client's willingness and eligibility (IVDUs 18 and older) to participate in the study are determined. Clients with a chronic physical or psychiatric illness requiring medication and/or treatment that precludes their ongoing participation in an outpatient substance abuse treatment program are excluded from the study. Clients who are ineligible to participate in the study or who choose not to participate in the study are given appropriate referrals to substance abuse treatment through IMRS. Research interviewers document the demographic characteristics of those clients not entering the study along with the reason(s) for exclusion from the study to determine the representativeness of the final sample. Clients who are eligible and agree to participate in the study are scheduled for a subject enrollment interview. At the interview, clients sign an informed consent form indicating that they understand the purpose of the study and agree to participate in the study. Clients who are actively in severe withdrawal or who are psychotic, intoxicated, or demented are excluded because these clients cannot render an informed consent.

After completing the research admission protocol (see table 1 for scales administered), clients are randomly assigned to the standard-treatment condition or to the case-managed condition. Clients assigned to the standard-treatment condition receive from the research interviewer the names, addresses, and telephone numbers of three substance abuse clinics within the client's geographical vicinity. This referral procedure is similar to that used by IMRS in response to client inquiries about treatment. Clients assigned to the case-managed condition are referred to a case manager who

TABLE 1. *Schedule of scale administration*

Measure	Admission	Treatment	Discharge	Posttreatment
Preadmission Interview Form (before admission)				
Addiction Severity Index	X	Semiannually	X	Semiannually
Monthly Drug and Alcohol Use Questionnaire	X	Monthly	X	Quarterly
AIDS High-Risk Drug Behavior Questionnaire	X	Monthly	X	Quarterly
Treatment Service Cards/ Social Systems Tally Sheet		Monthly		
Substance Abuse Problem Checklist	X	Semiannually	X	Semiannually
Ease of Treatment Admission/ Treatment Status Questionnaire		Monthly		
Treatment Plans		Quarterly		
Urine test results		Monthly	X	Quarterly
Treatment discharge information			X	

completes an initial client assessment, facilitates the client's entry into treatment, and addresses other immediate needs of the client (e.g., housing, transportation). The ICMS intake flowchart describes the study enrollment process (figure 1).

Instruments and Measures

To test the hypotheses regarding the effectiveness of a case-managed approach in working with IVDUs, the ICMS staff administers a series of research scales and instruments to monitor the client's treatment status, drug use, problems associated with drug use, needle use/sharing/cleaning, and treatment goals and services.

All clients are tracked for 3 years. While clients are awaiting admission to treatment or are in treatment, research interviewers monitor the clients' progress on a monthly basis. On discharge from treatment, clients will be interviewed 1 month posttreatment discharge and on a quarterly basis thereafter. After 3 years, clients will be discharged from the study.

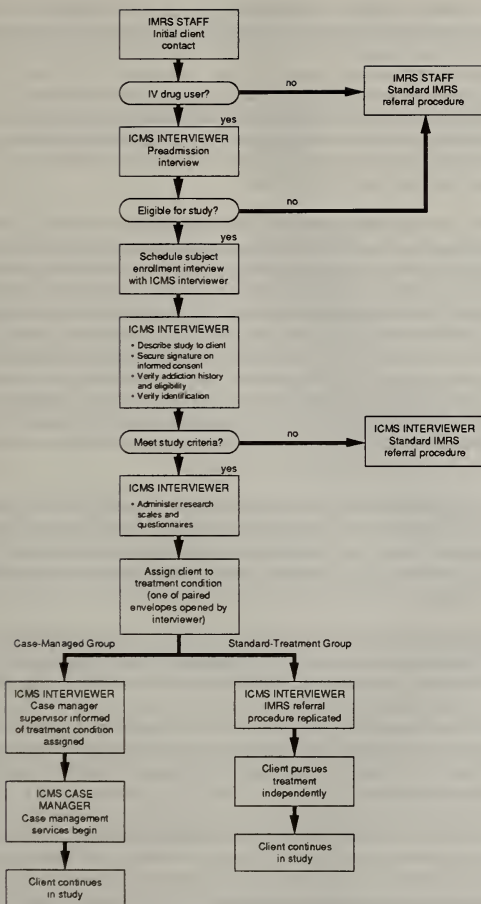


FIGURE 1. ICMS intake flowchart

Table 1 provides a list of the instruments and measures used in the study and a schedule of their administration. Descriptions of the instruments and measures follow.

Preadmission Interview Form. The Preadmission Interview Form is used to determine the client's eligibility to participate in the program. Basic demographic information (age, gender, ethnicity), drug use and route of administration, drug withdrawal symptoms, and previous treatment experiences are obtained from the client.

Addiction Severity Index (ASI). The ASI (McLellan et al. 1980) is a well-known treatment outcome tool that evaluates the severity (defined as the need for treatment) of seven common addiction-related problem areas: alcohol use; other drug use; medical, psychiatric, legal, family and social, and employment and support. For problem areas, two measures are obtained. The interviewer rates the problem severity for each area using a 10-point rating scale (0=no real problem, treatment not indicated and 9=extreme problem, treatment absolutely necessary). For each problem area, a composite score based on the sum of the individual objective items contained within the problem area also is obtained. Reliability and validity studies conducted on the ASI indicate good concurrent reliability (.92 or above for each scale) and good concurrent and discriminant validity (McLellan et al. 1988).

Monthly Drug and Alcohol Use Questionnaire. The Monthly Drug and Alcohol Use Questionnaire assesses clients' drug use in the past 30 days. Two measures of drug use are obtained—the average number of days the drug was used in the past 30 days and the average number of episodes per day on those days when the drug was used.

AIDS High-Risk Drug Behavior Questionnaire. The AIDS High-Risk Drug Behavior Questionnaire is a self-report measure that examines clients' needle use, needle-sharing, and needle-cleaning behaviors and sex-for-drug-money behaviors. Part A assesses these behaviors historically, and Part B assesses these behaviors within the past 30 days. Parts A and B are administered at study admission. Part B is administered monthly while the client is awaiting treatment or is in treatment, at treatment discharge, and quarterly during posttreatment followup.

Treatment Service Cards/Social Systems Tally Sheet. On a weekly basis, the primary counselor (and the case manager if the client was assigned to this treatment condition) records the number of hours the client received each of the listed treatment, social, and health services.

Substance Abuse Problem Checklist (SAPC). The SAPC is a self-report inventory that assesses problems experienced by the substance-abusing clients (Carroll 1984). The SAPC consists of 377 problems that are grouped into the following eight categories: problems associated with motivation for treatment, health problems, personality problems, social relationship problems, job-related problems, problems associated with the misuse of leisure time, religious or spiritual problems, and legal problems. The client reads each problem statement and circles those that reflect a problem the client is experiencing.

Ease of Treatment Admission/Treatment Status Questionnaire. The Ease of Treatment Admission/Treatment Status Questionnaire is used to determine whether the client is in a substance abuse treatment program, when and where the client entered treatment, the ease or difficulty the client had entering treatment, whether the client is on a clinic waiting list, whether the client still is seeking treatment, and the client's treatment discharge status (when and why the client was discharged).

Treatment Plans. Treatment Plans are developed for clients by the assigned substance abuse clinic counselor at treatment admission. Treatment plans are reviewed and modified by the substance abuse counselor with the client every 90 days.

Urine Test Results. Urine samples are collected on a monthly basis from clients while they are in treatment and on a quarterly basis while they are awaiting treatment or during posttreatment followup. Urine samples are tested for the presence of amphetamines, barbiturates, benzodiazepines, propoxyphenes, and cannabinoids.

Treatment Discharge Information. Treatment discharge dates and reason(s) are obtained by the research interviewers from the substance abuse treatment clinics when it becomes known that the client is no longer in treatment.

Research interviewers are responsible for locating and contacting clients. At study enrollment, clients are asked to provide their current addresses and telephone numbers and those of three relatives or friends with whom they are most likely to stay in contact. Changes in addresses and telephone numbers are routinely checked at each client contact. This technique has been found to reduce attrition in longitudinal research studies.

When a client has been contacted, the research interviewer either completes the interview over the telephone or schedules an appointment for the client at the research offices or at a mutually agreed-on place. If the client leaves the

study, reasons for leaving are recorded. To increase participation in followup, clients are paid \$5 for each completed quarterly interview and \$10 for each completed semiannual interview.

For clients who cannot be located, prison records and death certificates are searched to determine whether the client is incarcerated or deceased. Death certificates for deceased clients are obtained when possible, and the cause of death is recorded.

RESULTS

Analyses of the data are divided into five major categories: (1) sample description and comparison; (2) treatment access, implementation, and description; (3) treatment outcome analysis; (4) treatment process analysis; and (5) cost analysis. The primary questions addressed are what happened and what works and does not work, with whom, and at what cost. Data focusing on addressing these questions are collected across the 5 years of the study. Preliminary data collected within the first 2 years of the study address issues related to treatment access.

Sample Description and Comparison

A total of 204 clients have been admitted into the study; 102 subjects were assigned to the standard-treatment condition, and 102 subjects were assigned to the case-managed condition. The average age for the case-managed clients is 41.39 years with a range from 27 to 69 years old. The average age for the standard treatment is 39.88 years with a range from 21 to 67 years. In the case-managed condition, 68 percent of the clients are male and 32 percent are female. In the standard-treatment condition, 70 percent of the clients are male and 30 percent are female. The racial distribution in the case-managed group is 85 percent African-American, 10 percent white, 4 percent Hispanic, and 1 percent "other." The racial distribution in the standard-treatment group is 87 percent African-American, 8 percent white, and 5 percent Hispanic. Table 2 presents the demographic description by treatment condition.

The majority of case-managed (86 percent) and standard-treatment (92 percent) clients have used multiple drugs for an average of 16 years. At the time they entered the study, all clients had been injecting heroin an average of 19 years. Other commonly used drugs included alcohol, cocaine, and marijuana.

TABLE 2. *Demographic description of clients in treatment conditions*

Demographic Characteristics	Case-Managed (n=102)	Standard-Treatment (n=102)
Gender distribution		
Male	69 (68%)	71 (70%)
Female	33 (32%)	31 (30%)
Racial distribution		
African-American	87 (85%)	89 (87%)
White	10 (10%)	8 (8%)
Hispanic	4 (4%)	5 (5%)
Other	1 (1%)	0 (0%)
Age (years)		
Average	41.39	39.88
Range	27-69	21-67
Education		
Eighth grade or less	7 (7%)	13 (13%)
Some high school	31 (30%)	31 (30%)
High school/GED	33 (32%)	32 (31%)
Some college	22 (22%)	18 (18%)
College graduate	2 (2%)	1 (1%)
Missing value	7 (7%)	7 (7%)
Employment status		
Employed full time	14 (14%)	18 (18%)
Employed part time	13 (13%)	14 (14%)
Student	0 (0%)	1 (1%)
Retired/disability	10 (10%)	15 (15%)
Unemployed	57 (56%)	47 (46%)
Missing value	8 (7%)	5 (5%)
Marital status		
Married	15 (15%)	15 (15%)
Remarried	1 (1%)	1 (1%)
Widowed	6 (6%)	1 (1%)
Separated	19 (19%)	14 (14%)
Divorced	17 (16%)	18 (17%)
Never married	35 (34%)	48 (47%)
Missing value	9 (9%)	7 (6%)

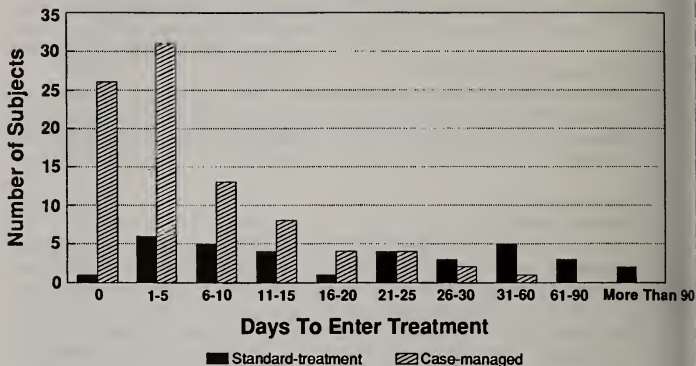


FIGURE 2. *Number of days between study intake and treatment admission by group*

Treatment Access

Ninety percent ($n=92$) of the case-managed clients and 35 percent ($n=36$) of the standard-treatment clients thus far have entered a substance abuse treatment program. The average length of time to admission into a substance abuse program was 6.19 days for the case-managed clients (with a range of 0 to 59 days) and 31.69 days for the standard-treatment clients (with a range of 0 to 163 days). Figure 2 depicts the range of time between study intake and treatment admission by group. About 56 percent of the case-managed clients entered treatment within 5 days. Within 15 days, 76 percent of the case-managed clients were admitted into a substance abuse treatment program. In comparison, only 7 percent of the standard-treatment clients entered treatment within 15 days. Eight percent of the standard-treatment clients vs. 1 percent of the case-managed clients were on a waiting list at a substance abuse treatment clinic. Fourteen percent of the standard-treatment clients have stopped seeking treatment. The long waiting lists at treatment clinics are most often cited as the reason for deciding not to pursue treatment.

On a 5-point Likert scale examining clients' perceptions of the ease with which they entered treatment, 79 percent of the case-managed clients indicated that it was "very" or "somewhat easy" for them to access treatment. The majority

of case-managed clients (74 percent) attributed their ease in accessing treatment to having a case manager. Only 48 percent of the standard-treatment clients indicated that it was "very" or "somewhat easy" to enter treatment. It is interesting to note that 21 percent of the standard-treatment clients attributed their ease in accessing treatment to their own contacts. Thirty-one percent of the standard-treatment clients indicated that it was "very" or "somewhat difficult" to enter treatment. The treatment clinic waiting lists were cited by 42 percent of the standard-treatment clients as the reason it was difficult to access treatment.

DISCUSSION

These results indicate that case management is effective in facilitating IVDUs' access to substance abuse treatment by reducing or eliminating obstacles to treatment. The case managers have identified several barriers to treatment. Through the referral, linking, and advocacy process, case managers reduce obstacles and improve access to treatment. The limited availability of treatment slots at publicly funded treatment programs is one of the major barriers to accessing treatment. Case managers maintain an awareness of treatment providers' current ability to accept new clients. Clients are directed to those treatment programs with available space or minimal waiting lists. A client also may be placed on the waiting list of a preferred program (defined by matching characteristics such as specialty in working with a particular cultural, ethnic, racial, or gender group), temporarily enter a program with space available, and transfer to the preferred program when space becomes available.

The lack of financial resources or health insurance to purchase treatment services from the private sector is another major barrier to treatment. When publicly funded services are unavailable due to lack of space, case managers can access funds to purchase care privately while the client is placed on the waiting list of a publicly funded program. When space becomes available in the appropriate publicly funded program, the client is transferred.

The lack of knowledge and/or skills to effectively traverse treatment delivery systems also is an obstacle to accessing treatment. Case managers have both the knowledge and skills necessary to negotiate the treatment system. Case managers' knowledge of admission criteria, admission process procedures, and the organizational structure of the treatment system and individual programs can assist clients with gaining access to treatment. Clients can be directed to those clinics where they meet the admission criteria. In addition, clients are guided through the admission/intake process. As a result, clients' frustrations are minimized since they are better prepared for the intake interview.

If a client lacks prerequisite treatment admission documentation or information (e.g., identification, previous treatment records, laboratory results), his or her admission to treatment may be blocked. Case managers assist clients with obtaining the necessary treatment admission information to facilitate the treatment admission process. This may involve paying photocopying fees to duplicate previous treatment records, arranging for laboratory tests, and/or arranging to have clients acquire an ID.

A client's presentation and/or history may elicit an adverse reaction by providers. Case managers may coach clients so that their conduct is appropriate. Case managers also may negotiate a specific behavioral contract addressing the provider's concerns with the client as a prerequisite to treatment admission. A treatment provider matched to the client's presentation or history (e.g., client placed in a program for criminal offenders, people with AIDS) may be sought.

The coexistence of other problems (e.g., alcoholism, psychiatric issues, medical conditions, financial difficulties, lack of housing, lack of transportation) may interfere with access to substance abuse treatment. The case manager will seek and coordinate the client's treatment for each presenting problem. The case manager also will help a homeless client locate and enter a shelter; provide transportation assistance (e.g., public transportation tokens) to clients with transportation problems; and help clients with financial problems to access general assistance, unemployment compensation, or available jobs.

The client's personal ambivalence about entering treatment and discontinuing drug use is an additional barrier to treatment admission. The case manager helps clients identify personal ambivalence, identify personal motivation for change, establish goals, and seek appropriate treatment resources. Throughout this process, the case manager remains supportive of a client's attempts at change.

CONCLUSIONS

National concern over the increased incidence of AIDS in the IVDU population led to an emphasis on improved and innovative ways of engaging IVDUs in drug treatment services. One such way is the utilization of a case manager to assist the IVDU with negotiating the various systems related to drug treatment.

When this study was designed, it was anticipated that case management would improve treatment access, would positively affect treatment outcome, and would reduce relapse. After 2 years, preliminary data have demonstrated that a case-managed approach is effective in assisting IVDUs with accessing

treatment with minimal delay (2 weeks or less).

The influence of case management on treatment outcome and relapse is still under study. These results, combined with access data, will permit conclusions to be drawn about the effectiveness of case management.

REFERENCES

- Allison, M.; Hubbard, R.L.; and Rachal, J.V., eds. *Treatment Process in Methadone, Residential, and Outpatient Drug Free Programs*. National Institute on Drug Abuse Treatment Research Monograph Series. DHHS Pub. No. (ADM)85-1388. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off, 1985.
- Anthony, W.A.; Cohen, M.; Cohen, B.; and Farkas, M. Clinical care update: The chronically mentally ill: Case management—more than a response to a dysfunctional system. *Community Ment Health J* 24(3):219-227, 1988.
- Austin, D., and Caragonne, P. A comparative analysis of twenty-two settings using case management components. *The Case Management Research Project*. In: O'Connor, G. Case management: System and practice. *J Contemp Soc Work* 68:97-106, 1988.
- Bagarozzi, D., and Pollane, L. Case management in mental health. *Health Soc Work* 9:201-211, 1984.
- Battjes, R., and Pickens, R. Needle sharing among intravenous drug abusers: An overview. In: Battjes, R., and Pickens, R., eds. *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives*. DHHS Pub. No. (ADM)88-1567. Rockville, MD: National Institute on Drug Abuse. Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 1-6.
- Battjes, R.; Pickens, R.; and Amsel, Z. HIV infection and AIDS risk behaviors among intravenous drug users entering methadone treatment in selected U.S. cities. *J Acquir Immune Defic Syndr* 4:1148-1154, 1991.
- Carroll, J. The substance abuse problem checklist: A new clinical aid dependency. *J Subst Abuse Treat* 1:31-36, 1984.
- City of Chicago Department of Health. *AIDS Chicago: AIDS Surveillance Program*. Chicago: City of Chicago Department of Health, January 1992.
- Cohen, M.R.; Nimec, P.B.; Cohen, B.F.; and Farkas, M. Psychiatric Rehabilitation Trainer Package: Case Management. In: Anthony, W.A.; Cohen, M.; Cohen, B.; and Farkas, M. The chronically mentally ill: Case management—more than a response to a dysfunctional system. *Community Ment Health J* 24(3):219-227, 1988.
- Des Jarlais, D.; Friedman, S.; Sotheran, J.; and Stoneburner, R. The sharing of drug injection equipment and the AIDS epidemic in New York City: The first decade. In: Battjes, R., and Pickens, R., eds. *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives*. DHHS

- Pub. No. (ADM)88-1567. Rockville, MD: National Institute on Drug Abuse. Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 160-175.
- Dole, V.P., and Nyswander, M.E. A medical treatment for diacetylmorphine (heroin) addiction. *JAMA* 193:646-650, 1965.
- Dybal, L. *Case Management in Selected Wisconsin Counties*. Human Services Development Series. Madison, WI: Wisconsin Department of Health and Social Services, September 1980.
- Fisher, G.; Landis, D.; and Clark, K. Case management service provision and client change. *Community Ment Health J* 24(2):134-142, 1988.
- Franklin, J.; Solovitz, B.; Mason, M.; Clemons, J.; and Miller, G. An evaluation of case management. *Am J Public Health* 77:674-678, 1987.
- Harris, M., and Bergman, H.C. Case management with the chronically ill: A clinical perspective. *Am J Orthopsychiatry* 57:296-302, 1987.
- Hopkins, W. Needle sharing and street behavior in response to AIDS in New York City. In: Battjes, R., and Pickens, R., eds. *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives*. DHHS Pub. No. (ADM)88-1567. Rockville, MD: National Institute on Drug Abuse. Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 18-27.
- Hubbard, R.L.; Marsden, M.E.; Rachal, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment: A National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989. pp. 71-98.
- Lowinson, J.H., and Millman, R.B. Clinical aspects of methadone maintenance treatment. In: DuPont, R.L.; Goldstein, A.; and O'Donnell, J., eds. *Handbook on Drug Abuse*. National Institute on Drug Abuse and Office of Drug Abuse Policy. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1979. pp. 49-56.
- McLellan, A.T.; Luborsky, L.; O'Brien, C.P.; and Woody, G.E. An improved evaluation instrument for substance abuse patients: The Addiction Severity Index. *J Nerv Ment Dis* 168:26-33, 1980.
- McLellan, A.T.; Luborsky, L.; Cacciola, J.; Griffith, J.; McGahan, P., and O'Brien, C. *Guide to the Addiction Severity Index: Background, Administration, and Field Testing Results*. DHHS Pub. No. (ADM)88-1419. Rockville, MD: National Institute on Drug Abuse, 1988.
- National Center for Health Statistics. *Births, Marriages, Divorces and Deaths for January 1991. Monthly Vital Statistics Report* 40(1). Hyattsville, MD: U.S. Public Health Service, January 1991.
- Newman, R.G. *Methadone Treatment in Narcotics Addiction*. New York: Academic Press, 1977.
- Roberts-DeGennaro, M. Developing case management as a practice model. *J Contemp Soc Work* 68:466-470, 1987.
- Simpson, D.D., and Sells, S.B. *Evaluation of Drug Abuse Treatment Effectiveness: Summary of DARP Follow-Up Research*. National Institute on

Drug Abuse Treatment Research Report. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1982.

Vintner, R.D. The essential components of social group work practice. In: Weinberger, P.E., ed. *Perspective on Social Welfare: An Introductory Anthology*. London: Macmillan, 1969.

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Transitional Case Management: A Service Model for AIDS Outreach Projects

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INTRODUCTION

In the mid to late 1980s, public health officials perceived that the acquired immunodeficiency syndrome (AIDS) epidemic in the United States had entered a second, unexpected wave. Human immunodeficiency virus (HIV) infection had spread to a new sector of the population, the injection drug user (IDU) and the sex partner (SP) of the IDU. Designing public health measures to contain HIV transmission among these newer at-risk groups loomed as a difficult challenge. Other health-related programs directed to the same groups had achieved only limited success. Street outreach projects, often tied to mobilization of community organizations and services, were identified as a promising way to make contact with and deliver health education to "hard-to-reach" IDUs and SPs (Watters 1987a, 1987b; Des Jarlais and Friedman 1987; Watters et al. 1988; Wiebel 1988). However, additional measures were needed to recruit them from the streets and into formally organized programs. This was especially true when IDUs and SPs were already infected and in need of medical care or when they needed help from drug abuse treatment programs, hospitals, and welfare agencies to initiate personal risk reduction. Case management tied to an outreach program constitutes one approach to this crucial recruitment function. This chapter reports on the development, implementation, and preliminary evaluation of a specialized case management program designed to operate as part of an outreach project in cities with high prevalence rates of HIV among IDUs and SPs.

THE SETTING

Located near the AIDS epicenter in New York City, Newark and Jersey City, NJ, are among the metropolitan areas with the heaviest concentrations of AIDS cases in the Nation. The Jersey City metropolitan area ranked fourth in the Nation in per capita AIDS cases for the year ending January 31, 1992, and

Newark ranked seventh. Through January 31, 1992, 7,581 cumulative AIDS cases had been reported for the two metropolitan areas, nearly 60 percent of New Jersey's total (Centers for Disease Control 1992). The high rates of AIDS can be attributed to widespread injection drug use in both cities. New Jersey is the State with the highest per capita incidence of IDU-associated AIDS (Centers for Disease Control 1989), and in Newark injection drug use has been linked directly or indirectly (i.e., through heterosexual contact with an IDU or perinatal transmission from mothers infected through injection drug use or sex with an IDU) to more than 80 percent of all cases (New Jersey Department of Health 1990).

Heavily concentrated HIV infection among IDUs and SPs in Newark and Jersey City is confirmed by the authors' studies. As part of the National Institute on Drug Abuse's (NIDA) multisite National AIDS Demonstration Research program, the authors, in collaboration with the New Jersey Department of Health (NJDOH), established the Health Behavior Projects (HBPs) in community offices in both cities to interview out-of-treatment IDUs and SPs about AIDS-risk behavior and to collect samples of their blood for HIV antibody testing. The HBPs operated from April 1989 through January 1992 and interviewed more than 5,600 subjects, more than 1 percent of the total populations of the two cities, perhaps 2 percent of people between the ages of 18 and 50. The investigators estimate that one-tenth to one-fifth of all people at risk of HIV infection through injection drug use in the two cities were recruited as subjects.

Although final results are not yet available, preliminary data show high rates of infection in the sample.¹ Among 2,774 IDU subjects in Newark, 1,137 (41 percent) were HIV antibody positive. In addition, 197 currently at-risk SPs were tested, with 37 (19 percent) being HIV antibody positive. In Jersey City, of 2,255 IDUs tested, 816 (36 percent) were HIV antibody positive. Of 185 SPs tested, 27 (15 percent) were HIV antibody positive. Because many current SPs are former IDUs, their rates of HIV infection are not indicative of risk for sexual transmission.

Since April 1989, the HBPs have seen more than 2,000 people with HIV infection. How many met diagnostic criteria for AIDS is unknown, as T-cell counts were not performed nor clinical histories taken. The field staff's impression was that only a modest proportion had progressed to AIDS or received diagnoses that would generate NJDOH reports of AIDS cases. Thus, public data on AIDS cases in the two cities may underestimate actual prevalence. A majority of the HBPs' 2,000 infected subjects probably belong to a large pool of persons likely to develop AIDS whose impending illness threatens the fiscal viability of the medical and social service systems (Young

1988). In addition, most of the HBPs' other 3,500 clients remain at substantial risk of HIV infection. Seroconversion rates calculated from the HBPs' followup studies have varied, depending on city and cohort, from 2 to 11 percent per person, per year (Iguchi et al. 1991). If they average to 5 percent per person, per year, they correspond to roughly 175 additional infections annually in the sample.

The setting of the HBPs' case management program cannot be grasped in demographic terms alone. It also involves a social class system typical of many old industrial cities of the Northeast (Wilson 1987; Anderson 1990). Since the 1950s, factories have been abandoned in large numbers, and jobs that once supported families on a basis of manual skills have disappeared. Stable working class communities have declined into "underclass"² neighborhoods where many households lack employment or reasonable hope of it. Even men and women who have learned two or three skills as welders, chemical mixers, or machine operators, as did some of the HBPs' older clients, have often been unemployed or intermittently employed for two decades or more. Men in particular, demoralized by lack of employment and incapable of supporting their families, have seen ties with wives and children weakened (Liebow 1967). With the loss of the social support that solidary family life commonly engenders, they are increasingly open to criminal activities (Anderson 1978; Wilson 1987) and a drug-using social life.

One-third of Newark's residents receive welfare support (Nieves 1992). The housing stock of both Newark and Jersey City has grown decrepit, and large numbers of the poor cannot find decent housing. Public services have been eroded by three decades of a declining tax base. Schools are poor, and policing, sanitation, and other public services are inadequate. Street life in many areas has fallen under the sway of drug dealers and muggers, often to a point that police will not enforce routine maintenance of law in public places. For many residents, the resulting insecurity affects nearly all routines of daily life. Even IDUs complain about living and raising children in housing projects dominated by armed drug dealers.

The anomie of the underclass community affects medical and social service agencies as well. IDUs and SPs who become clients for AIDS services or risk-reduction programs are often steeped in a culture of mutual distrust between citizens and agencies. Predominantly members of minority groups, poor, and relatively uneducated, they are accustomed to being treated with suspicion and disrespect. Many have engaged in illegal activities for large parts of their lives and become wary of all "established" institutions and professions. Most have had years of discouraging experience with agencies such as welfare, parole

and probation, public housing, and Medicaid, where they have met bureaucratic tangles and disdainful attitudes more often than a service orientation. Moreover, the routines of indigent IDUs, oriented mainly to the daily rigors of obtaining drugs and the insulated social world of drug-using groups, are generally incompatible with the world of formally organized services and professions, where schedules and appointments predominate. Thus, when IDUs encounter hospitals, medical practitioners, and social workers, they tend to be cautious about extending trust. Their styles of interaction may also reflect the manipulative, self-protective manner of people hiding criminal activities, the impairment of individuals torn by emotional conflicts, and the self-doubt that arises from failure in various spheres of life. They are also likely to resist treatments that may lead to reduced drug use or illegal income for buying drugs. And, hardly least, many are accustomed to taking large risks on matters of personal health and well-being.

Thus, the present crisis in AIDS care and AIDS-risk reduction services for IDUs and SPs involves much more than a large volume of unmet needs. It also involves dilemmas about how to provide services to IDUs and SPs as clients. Compared with AIDS patients in other risk groups, IDUs and SPs will often be hard to reach and engage in stable treatment relationships (Rife et al. 1991). Unless especially effective programs are established to assist them, they will fail more frequently than other client groups to keep appointments, take medication, or report back when symptoms change. With these characteristics, they are especially likely to suffer from fragmentation of care among specialized and often competing agencies, many of which are understaffed and lacking in resources (Willenbring et al. 1991). Nevertheless, the needs of IDUs and SPs are as great or greater than those of other patient groups. Moreover, the HIV epidemic will not be contained until effective ways of overcoming their difficulties are developed.

HEALTH BEHAVIOR PROJECTS

HBP's conducted outreach to recruit community IDUs and SPs for interview at the project offices in both cities. At the offices, subjects were introduced to the interviewing and intervention staffs, screened for research eligibility, and asked for written informed consent. Locator information was obtained to facilitate subsequent contacts. Subjects were then interviewed at length with the NIDA-sponsored AIDS Initial Assessment (AIA), Version 8. This instrument covers demographic factors, drug use history, needle use practices, sexual risk behavior, and AIDS knowledge. After completion of interviews, subjects were given pretest counseling and asked to provide a blood sample for HIV antibody testing. Subjects who indicated current injection of opiates were offered a coupon for either 21-day or 90-day (randomly determined) methadone

detoxification. Subjects were also invited to participate, after random assignment, in either a risk-reduction health education program based on interpersonal cognitive problemsolving theory or an attentional control group (Platt et al., in press). Subjects were then offered a standard set of referrals to a wide range of local agencies whose medical and social services might be helpful to them. Finally, they were told how and when to return for results of their HIV antibody tests and posttest counseling.

From early in the project, the HBP was able to place only a small minority of its HIV-infected subjects for appropriate medical care. Even after the HBP made several attempts at strengthening HIV pretest counseling and referral procedures, only 8 percent of clients were returning for test results and posttest counseling. Clients also were not following through on referrals to medical clinics. Thus, only 5 or 6 percent of infected clients were likely obtaining medical treatment (other than methadone treatment for drug abuse) directly through HBP interventions. A large proportion of clients also were not securing social services for their unmet personal needs, such as housing, food and clothing, job counseling, psychological support in dealing with HIV disease, family counseling, and legal services. Moreover, few of the uninfected subjects were obtaining medical and social services (besides methadone treatment) to help them avoid AIDS risks and maintain seronegative status.

These early findings made welcome an invitation from the Health Resources and Services Administration and NJDOH, Division of AIDS Care and Prevention, to apply for funds to develop a case management program and conduct an evaluation of it. Dr. Iguchi prepared a research design for assessing the efficacy of a short-term, brokerage-type case management service in comparison with the standard referral procedure and a third referral procedure of intermediate intensity and cost. An application was submitted and an award received. In June 1990 work began on developing a detailed protocol for case management with IDUs and SPs.

TRANSITIONAL CASE MANAGEMENT

Several considerations shaped the design of the case management protocol. First, it seemed desirable to assist large numbers of clients, even though limited funding precluded a large staff. The HBPs were interviewing 1,000 or more clients per city, per year. Following a classic model of intensive, long-term case management would limit availability of the service to only 50 or 60 clients per year, which seemed unresponsive to needs. Second, placing HIV-infected clients for AIDS care was a principal purpose, but not the only one. Meeting a public health need for stronger AIDS-risk reduction services to uninfected clients was also a primary goal. Third, AIDS-risk behavior and resistance to

treatment for HIV infection seemed for many clients to be embedded in practical deprivations of everyday life. Enabling clients to meet a broad spectrum of their everyday needs, thereby easing the acceptance of AIDS-related services, became a major focus of service. Fourth, as outreach projects, the HBPs were very limited service agencies, not clinics, welfare agencies, or community-based organizations with broad constituencies. Nor did the HBPs provide the kinds of services, such as drug abuse treatment, that might keep large numbers of clients returning to the field offices on a routine basis. On their own, the HBPs could supply only health education programs, pretest and posttest HIV counseling, and similar low-cost services. Because clients were unlikely to become dependent on these types of services, their continued participation seemed problematic. Fifth, outreach projects nevertheless presented a special strength as sites for case management, namely, contact with large numbers of HIV-infected and at-risk people who do not receive appropriate medical and social services. One way to exploit this strength would be to concentrate on placing hard-to-reach or "hidden" individuals with established agencies in the social service system.

After extensive discussion of these considerations, the model of transitional case management (TCM) emerged. TCM aims at time-limited or short-term service (compare Willenbring et al. 1991, pp. 18-22). Its goal is to make a quick, effective intervention in the lives of clients. It emphasizes what is usually termed the brokerage element of case management—the attempt to place clients with agencies that can deliver services matched to their needs. When matches are made, clients are to be "handed off" to the other agencies for continuing services. In the ideal case, especially for HIV-infected clients, at least one agency accepting a hand-off will provide case management on a continuing basis. When hand-offs are completed, TCM staff gain time and resources to attend to new clients.

TCM differs from AIDS case management as conducted in most other settings, certainly from the San Francisco model (Benjamin et al. 1988). AIDS case management often shades into managed care, with a goal of allocating scarce treatment resources among patients in an efficient manner. Another goal is to maximize patients' opportunities to live independently in the community but with appropriate supporting services (Rothman 1991). Case management of this kind may be operated by a hospital, an insurance company or health maintenance organization (HMO), or a community-based organization. Its efficacy depends on the sponsoring agency having sufficient authority over service providers, whether as employer or payor or indirectly through contracts, to make allocations of resources (Mechanic and Aiken 1987). TCM does not have the character of managed care, nor does its staff have authority over the provision or coordination of primary services. TCM is a means of referring

clients for services and advocates that they obtain services. Staff members following TCM protocol seek to gain entry to the service system for clients and attempt to reduce the burdens of confronting a fragmented system of care, but do not operate from a position of authority in the system and hence cannot make decisions regarding resource allocation.

TCM is also different by virtue of its time-limited nature (Willenbring et al. 1991). With limited resources, an outreach project must avoid promising more services than it can deliver. In contrast to programs that extend service for HIV-related conditions until final hospitalization (Sonsel et al. 1988), HBP staff members promise no more than four sessions of case management at a time. Extensions of service are possible if the goals of TCM cannot be reached in this standard sequence. Staff members have even invited clients to return for additional help months after starting TCM if they lose services at programs where the HBP placed them. Thus, the goal of TCM is to place clients with case managers at other agencies and then support continuing use of their services. In this respect, TCM brokerage is a type of followthrough on the outreach and recruitment functions.

Similarly, TCM contains a monitoring component, but one sharply focused on determining whether clients have established and maintained contact with agencies to which they have been referred. If a client has not made contact with an agency capable of meeting an urgent need, a repeat referral or an additional referral will be made. If an agency rejects a client's application, TCM staff may inquire whether the reasons were appropriate. If not, an appeal may be made to the agency. However, TCM does not involve extended, direct monitoring of the client's condition, in particular his or her medical condition. Efforts are not made to interpret medical test results (other than HIV antibody tests), visit the client's home, assess his or her support network by interviewing family and friends, arrange for home services to be provided, and so forth.

However, TCM's scope of public health concerns is broader than many AIDS-care programs. The HBPs have been as strongly oriented to risk reduction for clients who are not infected as they are to care for HIV-infected clients. TCM was designed to complement HIV counseling and health education services and the coupon program for free methadone detoxification. Its rationale is to encourage positive steps on risk behavior and health status by assisting clients to meet a broad spectrum of personal needs. TCM has been provided to clients without respect to HIV status to support whatever risk and harm reduction efforts they can make.

THE TCM PROTOCOL

TCM begins as soon after the AIA interview, the blood draw, and the standard referral procedure as an appointment can be arranged. The staff tries to start TCM immediately when AIA data indicate the clients are at high risk. However, clients are often too tired after the AIA to begin another long interview, and high-risk IDUs often feel the press of withdrawal symptoms. In such cases, the interviewer introduces the case manager, who encourages the client to return and tries to schedule an appointment.

The first session of TCM starts with an introduction to the service and its purposes. The case manager then begins a comprehensive needs assessment, evaluating the client's level of psychosocial functioning (including coping skills, problemsolving abilities, reality testing, and interpersonal efficacy), current resources and support systems, immediate needs (e.g., psychiatric care, food, housing, clothing, legal assistance, drug abuse treatment), and possible obstacles to using services. Many clients return for TCM with a critical need for food or shelter, intercession with probation or the Division of Youth and Family Services, or referral to an inpatient detoxification program. The case manager will then address the urgent need, postponing broader assessment until the client is comfortable with a plan for the crisis at hand.

The needs assessment is based on a guide of 12 pages, listing questions and probes for conducting the interview and recording pertinent data. The guide ensures that key areas will be addressed and gives the case manager tactful boilerplate for asking sensitive questions. For most clients, an initial needs assessment can be completed in 40 minutes to an hour. As a result of the assessment and taking into consideration a rating of needs completed by the client, the case manager proposes potential courses of action. The case manager ordinarily tries to make at least two key referrals during the initial session so that the client will feel that TCM can produce concrete benefits. However, the client should not be overwhelmed with too many referrals or recommendations covering too many matters. Nor should referrals emphasize issues that the client does not acknowledge to be important. The overwhelmed or threatened client is unlikely to follow through on essential first measures. The case manager must also avoid implying that the client's problems are easily solved or can be taken lightly. Finally, the client must be persuaded that the care plan is realistic and likely to prove beneficial in proportion to efforts expected from the client.

In most cases, the client's and case manager's perception of needs converge closely on the more practical matters (e.g., food, shelter, welfare benefits). However, they may have different perceptions of the chances that clients will

receive help. In this study, case managers have generally been optimistic that persistence will bring benefits, whereas clients have more often been pessimistic about "the system" working. Yet, many HIV-infected clients expect to qualify for disability benefits, although the case managers have learned that clients are rarely approved until very ill. Clients seek places in public housing when case managers know that obtaining an apartment takes months or years. Or clients seek assistance for moving out of public housing to the private market when case managers know that affordable apartments are scarce. Occasionally, the case managers have seen possibilities for help that clients have declined. One male IDU was advised to apply for welfare and food stamps but declined: It was "no use" because he would "misspend" whatever benefits he received. He was resigned to living homeless or in a shelter, eating out of soup kitchens and food pantries, spending the proceeds of panhandling on drugs. This client differed from several others primarily in being outspoken.

In general, case managers are more likely than clients to discern and emphasize needs for mental health services, drug abuse treatment, longer term medical care, and legal assistance. In the New Jersey study, clients have resisted drug abuse treatment in two different ways. Some have stated that they did not want or did not feel ready for such services. Others have accepted referrals but never followed through in using them. In a few cases, clients have passively avoided presenting themselves for an intake from week to week through the course of TCM. Mental health services have been resisted in similar ways, but apparently with a still stronger sense of stigma attached to them. Nevertheless, several clients have made use of services in the mental health field, often with good results even within the timeframe of TCM. Women who entered counseling or family therapy to help children with emotional or behavioral problems have made up a large proportion.

In TCM, presenting referrals to the client leads the case manager into the brokerage and advocacy processes. Having identified the client's priority needs, the case manager must judge what services can address them. The starting point for this task is a network of contacts at a variety of agencies. The case manager must know not only what services agencies provide, but when they will be available and for what types of clients, with what considerations about payment, and with what difficulties of access. Clients often have urgent needs and low thresholds of discouragement. They will then be lost to TCM if they cannot be assisted quickly. A personal contact may be of key importance if it helps to jump a client in crisis to the head of a queue. The case manager's role may also include making initial contacts with agencies, passing entry information to the client, monitoring the client's application process, and intervening if the client encounters obstacles and becomes frustrated. The HBPs encouraged many clients to call other agencies from the office to set

up their first appointments. This procedure enables a case manager to prompt, guide, and support clients as they enter negotiations for services.

TCM also involves supportive counseling as an adjunct to the referral and placement function. The goal is to prevent clients from abandoning efforts to obtain services when they encounter difficulty, including their own reluctance to seek help. This may involve exploring with a client his or her needs for services, including longer term counseling or therapy. However, the counseling remains focused on the referral and placement goals of TCM. When a client was in excruciating pain from an abscess undermining several teeth, yet had to wait 5 weeks for the welfare office to consider his application for Medicaid and then approve payment for oral surgery, fortitude was required of the case manager as well as the client. After supporting the client through this ordeal, the case manager was rewarded by seeing him give up not only the heroin with which he had been managing the pain, but his belligerent manner toward the world at large and some of his paranoia toward his family as well. The client also placed himself in medical treatment for his HIV infection.

TCM thus involves supportive counseling as part of troubleshooting a client's difficulties in obtaining services. Focused counseling may also be required to assist a client in managing an interpersonal crisis that emerges while progress is being made on other problems. A woman who seeks family counseling or therapy to deal with an abusive spouse or to persuade an HIV-infected partner to use a condom may require strong professional support. Without counseling, the impetus to follow through in using services may be lost. However, longer term psychosocial counseling or therapy to help with, for example, depression, interpersonal adjustment, coping strategies, or skills building, fall outside the time-limited bounds of TCM. Needs for these kinds of help, when uncovered, must be handled by services from other agencies. Similarly, TCM cannot handle a complicated disability determination or other entitlement or legal matter that may take months to resolve. When it is seen that an issue will not be resolved by routine approaches, a case manager should refer the issue to an agency providing longer term advocacy, such as a legal service.

One case manager counseled a client for more than 12 weeks to support her in entering methadone treatment and psychotherapy for feelings of self-hatred, including a fascination with masochistic sexual activity. With luck as well as skill in maintaining focus on the transition to therapy, the case manager succeeded in placing her with a qualified psychologist and in limiting her drug use to occasional "slips." A good outcome probably could not have been achieved without the case manager's willingness to hear unpleasant psychodynamic issues associated with the client's engaging in risky, humiliating prostitution. This case pressed the limits of TCM somewhat farther than the supervisory

staff had approved, even though the case manager skillfully maintained focus on transition to care by a psychotherapist.

After initial needs assessment and referrals, the case manager ordinarily plans to meet with a client for three additional sessions over 2 to 4 weeks. Clients may also be encouraged to drop into the office for informal meetings to report briefly on problems or progress with other agencies. During this period, TCM focuses on monitoring a client's progress in obtaining help for identified needs. If clients do not make contacts or keep appointments with agencies, they will be encouraged to do so. Many clients need two or three reminders before they keep first appointments with other agencies, especially those whose services are stigmatized, such as HIV clinics or mental health programs. If the services of a particular agency prove not to be available or suitable, new referrals can be made. If changes in a client's life have created new needs, the initial assessment can be supplemented and agencies providing appropriate services identified. When one need has been met, an underlying, frequently more complicated need may become apparent. When a woman obtains her HIV test results and resolves to make life changes to secure her seronegative status, her husband's attachments to drug use and sexual dominance may be more clearly exposed, as may her own dependency and passivity. Referrals for treatment of drug abuse and counseling on safer sex may thus be inadequate without some form of couples therapy.

By the third or fourth session, the case manager can usually plan an end to TCM service. At that point, the client should be making concrete progress with the help of another agency or agencies. The primary focus of the last session or two should be on monitoring progress with at least one other agency. When progress is being made, the client should be encouraged in his or her efforts to obtain useful services. When progress is insufficient, the client's hope should be supported and substitute referrals developed. However, judgment must be exercised so that another agency is not undercut before its efforts have had time to become effective. Care must also be taken not to give consensual validation for a client's complaints if they derive from ambivalence about making life changes rather than from an agency's shortcomings. The monitoring phase may require an extension of TCM to assess a client's progress with new agencies. Clients should also be encouraged to plan over the longer term for consolidation and continuation of their progress. If a client gives written consent, the case manager may consult with another agency to confirm its plans for continuing assistance. Ideally, TCM ends with a service plan confirmed by other agencies.

TCM AND POSTTEST COUNSELING

Difficulties in providing timely posttest HIV counseling sometimes created problems in scheduling the end of TCM. From their start, the HBPs emphasized placing HIV-infected individuals with medical clinics to be assessed promptly for zidovudine (AZT), pentamidine, and other elements of current AIDS therapy. In 1990 NJDOH launched its ambitious Treatment Assessment Program (TAP) to furnish publicly supported triage, continuing case management, and, as appropriate, AZT and pentamidine therapy for infected persons. The efforts of TCM staff to coordinate with TAP soon revealed consequences of the general scarcity of resources in the field of AIDS services. To hand clients over to TAP's case managers in an efficient way, TCM staff needed timely results on HIV antibody testing. ELISA and Western Blot tests for the HBPs were conducted by the NJDOH laboratory in Trenton, NJ. Overburdened by a growing workload, the laboratory began to lag in reporting results. For many clients, TCM had to be extended so that final referrals could be made after their HIV statuses were known, often 6 weeks after blood had been drawn. Other clients were lost to TCM before their test results had been returned. TAP in the meantime had also become overburdened, so intake appointments were unavailable for 6 or more weeks and, when missed by ambivalent clients, could be rescheduled for no sooner than 2 months later. The TAP clinic at Jersey City Medical Center eventually reduced its backlog sufficiently to accept HBP clients in a more timely manner. For a period of several months, however, HIV-infected clients were sent to less accessible hospitals. At best, clients were referred for HIV treatment later in TCM and with briefer than ideal monitoring of their placements.

As the staff gained experience with TCM and learned to be flexible in managing caseloads and schedules, the routine limit of four sessions was relaxed more frequently. Greater emphasis was placed on achieving the original goal of giving posttest counseling to all clients. To this end, TCM was routinely extended until clients' HIV test results were available. Although some clients were still lost before receiving results, gains were made in the delivery of posttest counseling. As a model, TCM thus encompasses posttest counseling and support through at least the early phases of personal planning in adjustment to HIV test results.

Posttest counseling was often a landmark event for high-risk seronegative clients as well as seropositive ones. Many HBP clients assumed from the experience of friends and family members that they would be seropositive. After facing up to posttest counseling with anxiety and dread, they found deep relief in their test results. One client, an IDU for roughly a decade as well as the stable sex partner of another IDU for 5 years, had come to the HBP out of

concern over her AIDS risk. She had lost one close relative to AIDS, and another relative was receiving treatment for HIV in jail. She expressed anxiety over her HIV status from early in TCM. After persuading her partner, himself an HBP client from the previous year, to return for his HIV test results, and then learning that he was seropositive, her dread mounted rapidly. After one delay when results had not yet been returned to the HBP and another when the client did not muster the courage to learn her results, the case manager could tell her that her test had been negative. Over the next few weeks, her partner was able to express his happiness over her good result, and the client expressed her continuing love for him. She progressed in methadone treatment while he, not able to afford treatment, succeeded in stopping drug use "cold turkey." The couple planned to marry as soon as they could. They also changed their social life abruptly, breaking with drug-using friends and strengthening ties with her father and extended family. With the case manager's assistance, the client obtained financial support and appropriate services for her household from unemployment, Medicaid, food distribution agencies, a few medical clinics, and a mental health program.

IMPLEMENTING THE TCM MODEL

The staffing plan for TCM included two case managers, one public health assistant, and two outreach workers. The supervising case manager was to monitor the routine referral services provided to all baseline and followup subjects by HBP interviewers, supervise the second case manager, and serve TCM clients herself. The junior case manager was assigned to full-time client work. The public health assistant was to maintain records for the evaluation of TCM, ensure that stocks of educational materials (including condoms for distribution at all appointments) and office supplies were adequate, and remind clients of appointments by telephone and mail. Early in the project, the public health assistant also helped the case managers in updating referral lists of service agencies and in meeting with agency representatives to introduce TCM. The role of the outreach workers was to recruit clients for all HBP programs on the streets and from welfare offices, emergency rooms, beauty parlors, and other likely places. Outreach workers would also accompany clients to appointments at other agencies and relocate clients who missed TCM appointments, although the HBP was able to arrange this assistance only for clients with special needs.

HBP contracted with a senior social worker experienced in AIDS case management at hospitals and social service agencies to serve as TCM consultant. For the first year and a half of TCM, he met weekly with investigators and field staff for protocol development and revision, drafting of manuals, and review of the assistance given to clients presenting unusual problems.

The formal staffing plan, following established standards in the case management field, called for an experienced M.S.W. in the position of supervising case manager and either an experienced B.S.W. or a newly degreed M.S.W. for the second case manager. However, the North Jersey market for social workers with experience in AIDS care proved to be extremely tight. When staff members were first hired, 2 months of making contacts, requesting resumes, advertising positions, and interviewing candidates did not turn up a strong applicant with an M.S.W. and appropriate experience. Only after almost a year of searching for a person with a professional degree was an M.S.W. hired.

Although they did not have M.S.W. degrees, the first two case managers to work at the HBPs were well qualified. The first one was a resident of Jersey City who had experience as an intensive case manager with AIDS patients, knew the community and its agencies, and related with minority individuals and IDUs in a straightforward, respectful manner. The second case manager had extensive experience with an IDU and SP clientele as a family planning counselor. Combining energy in making placements with other agencies and tolerance for the varied activities and interpersonal styles of clients, she was especially successful in building supportive relationships with clients. The scope and detail of her case records have made them a major resource in assessing TCM. In staffing a research-oriented program, special consideration should be given to candidates who can record the details of casework.

The TCM program gained its outreach workers by reassignment of two already-employed members of the HBP staff. Under general arrangements for the HBPs, all outreach workers were hired through two methadone clinics in Jersey City and Newark, then supervised by NJDOH staff. In practice, the TCM outreach workers were not effectively reallocated from the tasks of recruitment for the HBPs in general to the case management effort specifically. The arrangement proved efficient for primary recruitment of clients for intake. However, when assistance was needed in walking clients to appointments with other agencies or relocating them for TCM appointments, only occasional help was received.

Staff turnover has been a notable problem for the TCM project. Two program-related factors may have created difficulties. Both the first and second case managers expressed discomfort with the research focus of TCM when they resigned, commenting specifically on the extensive recordkeeping. They may also have been disappointed by the turnover in clients under the TCM protocol, which reduces continuity in client relations. When the second case manager resigned, it appeared that the intensity she brought to her work had brought on a temporary burnout. Supervisory staff members had noted her tendency to

counsel clients more intensively than TCM requires, but they had not fully perceived the emotional fraying that accompanied this extra effort. She has since commented on the sense of relief she experienced after leaving the HBP. Her experience serves as a reminder that staff members working in AIDS-related service require emotional support.

STUDY DESIGN AND DATA COLLECTION

The research design called for a comparison of three ways of ensuring that IDUs and SPs who are HIV infected or at risk of HIV infection receive referrals for medical and social services:

- TCM, as described above
- Standard care (SC), the procedure that the HBPs had followed from the start of field operations, with interviewers giving referrals after subjects had completed AIAs
- Case referral (CR), in which interviewers provide the basic referral service as in SC but work under the supervision of a professionally trained social worker who is familiar with the referral opportunities in the community and who reviews the disposition of each case for appropriateness in terms of client needs

All three protocols are methods of helping clients secure services from other agencies for a wide range of personal problems common among IDUs and SPs, including care for HIV infection. The study's data collection has been designed to show whether the TCM protocol produces a substantial increase, compared with SC, in the numbers of infected and at-risk persons who obtain appropriate medical and social services. A collateral issue has been to determine whether the CR protocol increases referrals comparably to TCM, but at lower cost. By comparing similar programs in Newark and Jersey City, the study was also designed to suggest ways in which results might be site dependent.

Funded staff was not sufficient to operate three interventions in two cities at the same time. Therefore, in phase one all Newark subjects received SC, and Jersey City subjects were assigned to TCM or CR by odd or even project ID numbers. In phase two, Jersey City subjects received SC, and Newark subjects were assigned to TCM or CR by project ID number.

Phase one of TCM and CR was implemented in Jersey City on November 4, 1990, and maintained through September 27, 1991. SC had begun in Newark under a revised protocol on July 2, 1990, with the early start possible because

new staff members were not needed. Phase two began early in September 1991 and ran through January 1992.

Client data collected to assess the three protocols were keyed to the HBP subject ID numbers so that they can be linked to data on demographics, risk behavior, and serostatus. Data collected as part of the TCM assessment were as follows:

For SC: (1) Checklists were prepared at the time of both baseline and followup interviews to record every referral offered to each client; (2) at followup interviews, clients were read lists of referrals they accepted at baseline and were asked to report what use they had made of each one, with their reports being recorded on a new form. These referral followup forms were completed for about 750 of the SC study subjects in Newark who returned for timely followup interviews; approximately 400 baseline SC clients did not return for followup interviews. Data drawn from referral followup forms on 231 of the SC clients in Newark provide the base of comparison for the assessment of TCM below.

For CR: (1) The same instruments were used as for SC; (2) in addition, a brief "areas of need" checklist was prepared for each client as part of the enhanced CR service. This instrument reminded clients of needs in various areas in the hope of encouraging them to accept appropriate referrals. In combination with the referral followup form, the needs checklist should make it possible to assess the relation between previously stated needs and actual use of referrals. Nearly 400 sets of baseline data and about 200 sets of followup data were collected for CR clients in Jersey City. Data on CR clients have not yet been analyzed and are not reported here. The field staff suggested that meaningful differences between the SC and CR protocols were not maintained because, after learning better referral skills as part of CR when working in Jersey City, or when exchanging information with the Jersey City staff, interviewers used them with Newark SC clients as well.

For TCM: (1) Checklists recorded offers of referrals at the baseline interview; (2) complete case records reported all appointments and other client contacts with TCM staff; (3) referral followup forms, completed in a way similar to those for SC and CR, showed use of referrals during a period of approximately 6 months. Each case record, when complete, includes: the client's own indication of areas of chief need; the case manager's assessment of the client's needs; the case manager's case notes, including remarks on all referrals made and, where subsequent appointments permitted, the client's reports on use of referrals; monitoring and tracking sheets on which TCM staff recorded all contacts with the client aside from appointments, including

telephone and mail contacts and reports from family members or agencies; and a termination form containing the case manager's final assessment of the client's participation.

ASSESSMENT OF PARTICIPATION

From November 5, 1990, to September 4, 1991, 777 subjects in Jersey City were interviewed with the AIA instrument. Of these subjects, 392 were provided SC referrals and then offered the opportunity to receive case management services under the TCM protocol. Of the 392 potential TCM clients, 287 agreed to participate, and case folders were created for all 287. Most of them never returned to the HBP for a TCM appointment. The staff reported that 97 clients finished at least one session of TCM, with 91 completing the needs assessment. In a review of all case folders, however, 103 clients were identified as having had a TCM session with a case manager. The following data on TCM are drawn from the case records on these 103 clients.

Referral sheets completed at baseline interviews were examined for clues about why subjects refused TCM or failed to attend first appointments. Three types of subjects could be identified, along with some others whose situations were less clear. First, some subjects stated that they were employed and had places to live, adequate food, and medical attention. Second, a larger number of subjects rejected referrals saying that they were already receiving basic services (e.g., welfare, food stamps, Medicaid, public housing). Although these two types, together a considerable proportion, refused TCM on grounds of not needing the service, a third and more common type of nonparticipant had high levels of need but appeared to lack motivation for reducing drug use and other risk behavior or may have distrusted the program.

TCM participants were thus a self-selected group of 26 percent of all subjects assigned to the program. Compared with nonparticipants, they probably constituted an intermediate group in terms of need and risk. On the average, the first two types of nonparticipants likely had fewer, less urgent needs and probably lower levels of current exposure to HIV risk. The third type likely had greater needs and higher risks.

Of the 103 participating clients, 66 were IDUs, male and female; 36 were female SPs; and 1 was a male SP seen in violation of HBP screening rules. In all, 53 clients were women and 50 were men. Since AIA subjects during the TCM study period were roughly 75 percent IDUs, SPs participated at higher rates than IDUs. Similarly, among IDUs, women participated at higher rates than men. This pattern may reflect the fact that the case managers, along with key interviewers and outreach workers in Jersey City, were women and strongly

oriented to women's issues. However, it may also reflect a reluctance on the part of men to become recipients of help. Another likely factor is that men tend to be more strongly engaged in the social role of IDU and hence are less likely to accept help in recovery.

Client participation declined session by session. Of the 103 clients attending a first session, 69 returned for a second, 51 for a third, and 39 for the fourth. Thus, only 38 percent of clients starting TCM completed the standard four sessions. Among those for whom the case managers obtained permission to extend TCM, 15 attended a fifth session, 9 attended the sixth and seventh, and 4 attended for eight or more sessions. The session-by-session attendance data also indicate that SPs attended longer than IDUs and women IDUs longer than men. Among 15 clients who remained in TCM through the fifth session or later, 10 were women and 5 were men.

To encourage sustained participation, case managers were instructed to ensure that clients completing an initial session received at least one helpful referral. The case records document success in meeting this goal. They show that all but 17 of the 103 TCM clients received at least one referral resulting in provision of service. Some of the remaining 17 clients likely received help as well but did not report it before dropping out of TCM. Thus, at least 83 percent of clients, and likely more, received service from the TCM referral procedure.

The data on successful referrals also explain part of the session-to-session decline in attendance. Many clients came to TCM for help of a specific kind, such as a letter of referral to an agency distributing free food, placement in a shelter or detoxification program, or an appointment at a medical clinic. These clients tended not to be looking for more comprehensive care. If their specific needs were addressed in one or two sessions, they often did not return. In many cases, dropping out reflected a judgment, even if unwise, that urgent needs had been met and TCM was no longer necessary. For other clients, the records indicate the case manager's agreement that reasonable goals set in the initial needs assessment had been achieved after two or three sessions. In these cases, early termination was made or the case manager informally agreed that the client had completed TCM unless an unexpected need arose. Only rarely, if the case records give fair indication, did clients drop out in frustration that still another program had failed them.

Most attrition apparently resulted neither from TCM's positive achievements nor from pointed failures. Rather, clients simply did not return. Assuming that clients who never returned were similar to ones who returned only weeks or months after they had broken scheduled appointments, the main reasons for dropping out of TCM were lack of resolve to make personal changes and

embarrassment over not having followed through on referrals. This type of dropout accounts for most of the attrition between the first and second sessions, but progressively less for later sessions. This is consistent with an overall picture that clients who participate only briefly are often similar in motivation to nonparticipants. SPs showed less attrition than IDUs, and women IDUs less than men, perhaps because they were less often conflicted over making life changes.

OUTCOME ASSESSMENT

To assess TCM in terms of outcome methodology, case records from all 103 Jersey City TCM clients were examined and information bearing on the following questions abstracted. First, what services were clients receiving at the time of intake, as reflected in the initial needs assessment? Second, what services did clients receive while participating in TCM? Third, what services might clients continue to receive over a longer term after completing TCM? Data bearing on these questions have been aggregated under categories derived heuristically, that is, by grouping together similar services among the ones supplied by agencies to which case managers referred clients.

A conservative summary of resulting data is presented in table 1. Entries have been made under appropriate categories only where case records include clear reports by clients or agency representatives that services had been or were being received. Guesswork has been avoided whenever possible. Services obtained by clients who did not subsequently keep an appointment, drop by the office, or respond to a monitoring or tracking inquiry have not been recorded, except where agencies or family members provided clear information. Because of the frequency of attrition, this procedure likely underreports the achievements of TCM.

Another reason for underreporting is that multiple referrals for a given client within a single general category were not recorded. Second, third, or even fourth referrals were often made because a first referral did not work out satisfactorily. Thus, it seemed inappropriate to count substitute referrals. However, many additional referrals grew out of a different circumstance. They addressed needs that were different in substance, even if related to the same general category—for example, medical referrals to a gynecologist, allergist, and orthopedist or placements with both soup kitchens and food pantries, followed by a referral for food stamps. It was often not possible to note these additional referrals with confidence that they were not substitute referrals. To keep the data "clean," therefore, both additional and substitute referrals have been omitted from the data set, with the consequence that the case managers' efforts on behalf of many clients are substantially underenumerated. The

TABLE 1. *Referrals received by category—TCM clients (n=103)*

Referral Type	Received Service Before Intake [*]	Received Short-Term Services ^{*†}	Received Long-Term Services ^{*†}
HIV-related services	6	23	19
Medical	5	18	11
Support services	1	5	8
Alcohol and other drug abuse [‡]	14	34	10
Inpatient treatment	1	11	1
Drug-free treatment	1	2	0
NA/AA	12	21	9
Other	0	0	0
Other medical services	37	42	16
Mental health and family counseling	9	17	11
Housing and shelter	18	19	4
Food and clothing	42	40	9
Entitlements and financial assistance	42	44	24
Legal aid	8	10	1
Employment and vocational	7	31	8
No documented service	18	17	57

^{*}Does not reflect multiple services within category for individual clients

[†]Service obtained through TCM

[‡]Excludes methadone detoxification obtained through the HBP coupon program

referral data for TCM clients are thus best interpreted as indicating the broad categories of need for which one or more referrals were made and utilized.

Table 1 shows that 5 clients were already receiving HIV-related medical care at intake, 18 clients received placements for HIV medical care on a short-term basis, and 11 seemed sufficiently well established in receiving care that they

could be recorded as having continuing care. The clients recorded as obtaining HIV care through TCM include two of the five who were initially receiving such help. They gained additional referrals and service through TCM. Only one client was recorded as having participated in nonmedical HIV care and support programs before intake, whereas five received short-term care, and eight were recorded as being securely placed for continuing care. Because of the delays in posttest counseling and consequently in placing clients for HIV treatment, care was just beginning for several clients as TCM was completed, which explains why some are listed as receiving long-term service but not short-term service. Probably additional clients among the 18 who were placed for medical HIV care also ended up participating in support groups and obtaining other psychosocial help but were placed by hospital-based case managers. Because HBP serostatus data have not yet been linked to TCM client IDs, the total number of seropositive participants is not yet known and success in meeting their needs can only be estimated. Case records do not indicate all the seropositives because many clients were lost to TCM before their serostatus was reported. However, rates of seropositivity will be lower than for the HBP as a whole because of the large percentage of SPs who took part in TCM. If, in all, 30 TCM clients prove to have been HIV infected, help will have been given to approximately two-thirds of them.

Treatment for drug problems (primarily drugs other than alcohol) was a focus for TCM as for all HBP programs. Including all types of treatment, counseling, or group support, the case managers made 34 successful referrals for substance abuse problems. The 34 include additional placements for most of the 14 clients who had already joined Narcotics Anonymous (NA), Alcoholics Anonymous (AA), or another program before making contact with the HBP. The 34 exclude 27 placements in methadone treatment through the HBP coupon program, counted here as an independent intervention even though the case managers actively supported it. However, several clients expressed preferences for drug-free programs. Several others were exclusively or primarily cocaine users who did not qualify for methadone treatment. A few claimed to be opiate users and took methadone coupons but did not qualify when their urine samples contained insufficient levels of opiates. For all these types of cases, the case managers generally recommended inpatient detoxification or rehabilitation programs. In 11 cases they succeeded in making placements, although 2 patients would accept only outpatient drug-free programs. Most, but not all, of the 21 clients placed with NA or AA received other forms of alcohol or other drug abuse treatment (including methadone) as well. Referrals to NA or AA were usually suggested as an additional support to people accepting another mode of treatment. However, a minority continued in NA or AA without other treatment, in a few cases with apparent success.

Of the 103 clients, 37 had been receiving care for non-HIV medical problems at the time of intake or shortly before. Their problems ranged from dental to gynecological and included a large number of accidents and injuries. Most of the care had been obtained in emergency rooms, with walk-in clinics also being frequently used. Only a few clients received care from private physicians, HMO staffs, or through other continuing doctor-patient relationships. A total of 42 patients were placed for new medical care, and 16 were placed in programs where longer term services had been initiated. These numbers include some of the 37 who were previously obtaining treatment. In many cases, referrals were made for serious medical conditions—epilepsy, diabetes, sickle cell, cancer, liver or kidney disease, and painful dental conditions. In most cases, clients were sent to family health clinics, walk-in clinics, family planning services, and so forth for help under Medicaid, but often in arrangements that would favor stable doctor-patient relationships.

At time of intake 9 clients were participating in programs that provide psychosocial, psychological, psychiatric, or counseling services; 17 clients received placements of this type through TCM, 11 of them on terms that appeared stable and continuing. In many of these cases, the clients showed frank and serious psychopathology. In others, relationships with spouses or significant others were in turmoil. In several, children were having difficulties at home, in school, or with the law, and placements focused on family counseling or therapy for the children. Because TCM generally focused on pressing practical difficulties, the case managers rarely made referrals for therapy or counseling unless needs were intense. For most clients, matters such as food, shelter, and income prevailed as focal concerns, and the service did not progress to a point where psychosocial problems might become foremost needs. Thus, psychosocial problems claimed primary attention only if they had become urgent or threatened to become urgent, as was the case for one young mother who had to plan for her children after learning that she and her husband were both HIV seropositive. When the case managers offered mental health referrals, they often encountered resistance from clients, as would be the case in any population. Referrals in this area thus greatly understate the psychosocial needs of the clientele as perceived by the staff.

The category of housing and shelter combines referrals for immediate shelter with assistance in obtaining better long-term housing. Jersey City has many homeless people, with IDUs and to a lesser extent SPs common among them. Most of the 18 who were previously receiving help were living in large shelters for the homeless. The 19 who received help through TCM include some people who had been living on the streets or in abandoned houses and who were newly placed in shelters. Others had been living in shelters and were helped through TCM to move on to better housing. The four listed as receiving

continuing help were placed in appropriate long-term housing, whether public housing projects or privately owned apartments. More long-term help would have been given in this domain were housing not so scarce and expensive in North Jersey.

The large numbers who received help for food and clothing reflect the indigency of many HBP clients. Yet, many IDUs have disposable income and spend it on drugs, then approach a soup kitchen or food pantry for free meals. Many SPs have the same hand-to-mouth subsistence imposed on them by their IDU partners; others follow it to serve their own noninjection drug habits. Because of the volume of demand for free food, the local soup kitchens and food pantries do not give out food without letters of referral from a social service agency. The case managers thus played a gatekeeper role by supplying referral letters whenever clients came to them hungry. Indigent clients who continued with TCM were assisted in obtaining food stamp allotments as well. The nine clients listed as having received continuing help for food all obtained food stamp allotments. The 40 clients receiving short-term help through TCM are fewer than the 42 who previously received food, in part because many knew how to obtain free food and did not need additional help. In several cases, clients were ineligible for food stamps because of records of prior misuse of allotments. The case managers could then only line up several pantries or kitchens to sustain the clients. In many cases of assistance with food, children and spouses benefited along with clients.

The case records show that at least 42 clients had been receiving some form of entitlement before participating in TCM. Clients receiving help were primarily women, SPs, and noninjection drug users. However, some male IDUs were also receiving welfare, disability, or veterans' benefits. Help in obtaining entitlements or other financial support was successfully given to 44 clients, 24 of them apparently with relative permanency. Many of those helped were people already receiving some assistance at intake. They often received additional assistance (e.g., housing subsidies, welfare, transfers from welfare to disability). However, 8 or 10 clients were taken off welfare (and/or food stamps) during their period with TCM. The help they received from the case managers was to gain reinstatement.

The impression of TCM staff was that welfare agencies try to remove drug users, prostitutes, and other "undesirables" from their rolls. They undoubtedly have good cause in many cases; fraud and misuse of funds are not uncommon among IDUs and their families. Yet, the case records indicate that officials sometimes act in the manner of police who arrest a person they "know" to be a drug dealer whether he or she is holding drugs at the time (Gould et al. 1974). On occasion, clients were dropped from welfare precipitously when they failed

to keep an appointment or show a document, even after informing the officials that a hospitalization or inpatient detoxification would make rescheduling necessary. The cycling of clients on and off welfare rolls created extra work for the case managers. Getting a client on welfare often proved to be an unstable achievement, leading to additional effort after the welfare office imposed a sudden change of status.

At intake, eight clients were receiving legal services for a variety of matters, criminal and civil. The case managers assisted 10 clients in obtaining legal help for problems ranging from divorce and child custody to theft and assault to violations of parole or probation rules to pursuing injury claims. In one case, extended legal help was needed for a complicated criminal matter.

The category of employment and vocational training or education is the one in which TCM achieved the largest proportional increase in services. At intake, 7 clients were receiving help; 31 received additional short-term help; and 8 received extended help, such as placement in an educational program. Most of the clients who benefited were unemployed men or women who sought immediate jobs and would accept any work that could be found for them. A few employed people sought training to upgrade their jobs. A few others registered to continue college studies after succeeding in treatment for drug abuse. The latter were among several clients who had been students but dropped out of college when they started using drugs.

TCM provided the most concrete help when it sent clients to programs, such as the Urban League's, that placed people in direct contact with employers. In almost all cases, the jobs obtained were for unskilled work, at warehouses, for example, with little future and indefinite prospects for continuation. Several clients were able to return to work they had performed earlier in their lives, a few in skilled positions and one in long-haul truck driving. Two were employed in what the HBPs gathered is a favorite line of work among unskilled drug users, school bus driving. A number of the older men, now long-term IDUs, had worked at a variety of skilled jobs earlier in their lives, several in more than one field. With the region's loss of industry requiring skills, unfulfilling warehouse work was now the best they could find. Reading between the lines of case reports, it appears that clients who had no job but asked for vocational training or education were often not seeking long-term self-improvement but simply declining practical help.

To place the data on TCM in perspective, table 2 presents data gathered from the followup referral forms of 231 SC clients in Newark, which show overall a much lower level of acceptance and use of referrals. Of the 231 clients, 123 accepted no referrals from their interviewers. The other 108 clients accepted

TABLE 2. SC services—Newark clients (*n*=231)

Referral Type	Accepted	Appointment Made	Received Service	Active at Followup
HIV-related services*	0	0	0	0
Medical	0	0	0	0
Support services	0	0	0	0
Alcohol and other drug abuse†	111	9	3	1
Inpatient treatment	21	3	2	0
Drug-free treatment	13	2	0	0
NA/AA (hotlines)	67	4	1	1
Other	10	0	0	0
Other medical services	28	6	3	0
Mental health and family counseling	23	6	1	1
Housing and shelter	4	0	0	0
Food and clothing	15	1	1	0
Entitlements and financial assistance	15	8	4	4
Legal aid	0	0	0	0
Employment and vocational	32	10	3	0
Totals				
Clients accepting referrals	108	21	14	5
Referrals given	228	40	15	6

*HIV serostatus not known at time of referral

†Excludes methadone detoxification obtained through the HBP coupon program

an average of 2.11 referrals. However, only 14 clients followed through with their referrals to the point of receiving service, and only 1 client obtained service from two agencies. At the time of followup interview, approximately 6 months after baseline, five clients were still receiving services from six agencies.

In interpreting these data, three qualifications must be considered. First, they have been collected differently from the data on TCM clients. They are derived from questionnaires probing client memories and reports, not case records. Second, although followup interviewees were in key respects a self-selected group (rates of relocation and followup interviewing were approximately 65 percent for the cohorts involved), they may have been differently self-selected than TCM participants. Third, the SC clients were recruited and received service in Newark rather than Jersey City. Newark is both a larger, more diverse city and a less closely knit community than Jersey City. However, it is characterized by more service agencies and, on the whole, more active and effective ones. On balance, how client opportunities compare in the two cities is not fully understood by the investigators.

In reviewing the SC data more closely, the following patterns are noteworthy. Among SC clients, no referrals were accepted for HIV-related medical treatment or social support, although it must be emphasized that these referrals were offered immediately after the AIA and before HIV test results were known. Had the followup referral forms probed acceptance and use of referrals given at the time of posttest counseling rather than baseline interview, some use of HIV-related referrals might have been identified. However, during the period of this study, only 12 to 15 percent of Newark subjects received posttest counseling prior to returning for followup interviews.

The followup referral forms indicate, first, verbal "acceptance" of referrals given after AIA interviews. In all, 28 clients accepted non-HIV-related medical referrals and 23 accepted referrals in the domain of mental health or family relations. Only 4 referrals were taken for housing or shelter, 15 for food and clothing, 15 for welfare and entitlement matters, and 32 for employment or vocational training. A larger response, 111 acceptances in all, was obtained in the domain of alcohol and other drug abuse, even though, for comparability with data reported above, HBP coupons for methadone detoxification are not included in this count. However, most of these referrals (67) consisted merely of accepting an NA or AA hotline number.

When clients were asked whether they had made appointments with agencies to which they had been referred, their responses revealed the weakness of SC as a form of client service. Only 6 of 28 claimed to have made medical appointments, 6 of 23 to have made mental health or family relations appointments, 1 of 15 to have obtained food distribution, 8 of 15 to have made a welfare appointment, and 10 of 32 to have made a job or vocational appointment. Of the 111 clients who accepted drug or alcohol abuse referrals, only 9 made an appointment. This includes several who may have made appointments for drug abuse treatment but only 4 of the 67 who accepted NA or AA hotline numbers.

When SC clients were asked whether they had received services through their referrals, the numbers dwindled further: three for medical care, one for mental health services, one for food and clothing, four for entitlements, three for employment or vocational help, and three for alcohol or other drug assistance, including two for hospital detoxifications and one for NA or AA. At time of reinterview, no medical treatment was active. However, one client was still receiving mental health care, four still had entitlements, and one remained active at NA.

Table 3 arrays the data presented in tables 1 and 2 in a common format and introduces percentage data to facilitate comparisons. It shows that, with a lower threshold of participation, SC involved 46.75 percent of potential clients, whereas TCM involved only 26.28 percent. However, SC resulted in concrete help for only 12.96 percent, whereas TCM provided help to 83.50 percent of participants.

Thus, SC assisted 6.06 percent and TCM assisted 21.94 percent of all assigned subjects. Table 3 also shows the percentages of all assigned subjects and of all participants who received service in each category through SC and TCM.

Whatever caveats are warranted by the preliminary nature of these outcome data, they suggest that TCM provided a service that cannot be produced with the lesser commitment of staff resources involved in SC. By this standard, TCM has been a success. The core of its success is the high rate of 83.50 percent in obtaining concrete service for active participants, a large improvement over 12.96 percent for SC. Nevertheless, the rate of success in helping all potential clients remains lower than desirable at only 21.94 percent. As suggested in the assessment of participation above, many of the 78.06 percent of potential clients who did not obtain help had lower levels of need and greater resources available to them than did TCM participants. Yet, others apparently had still greater needs and fewer resources. TCM shares in the common difficulty of interventions directed to IDUs and associated hard-to-reach or hidden groups; namely, many potential clients with severe needs lack the will or motivation to participate effectively. By enhancing TCM it may be possible to improve participation modestly among these groups, but it would be naive to expect dramatic improvement.

ENHANCEMENTS TO TCM

The experience with TCM in Jersey City suggests the need for several enhancements to reduce attrition at various points in the program and even increase initial client recruitment:

TABLE 3. Comparison of outcomes for SC and TCM

	Offered SC (n=231)			Offered TCM (n=392)		
	N	Percent of Sample	Percent of Clients Participating	N	Percent of Sample	Percent of Clients Participating
Total participating*	108	46.75	—	103	26.28	—
Obtained services						
Total	14	6.06	12.96	86	21.94	83.50
HIV-related services	0	0.00	0.00	23	5.87	22.33
Medical	0	0.00	0.00	18	4.59	17.48
Support services	0	0.00	0.00	5	1.28	4.85
Alcohol and other drug abuse†	3	1.30	2.78	34	8.67	33.01
Inpatient treatment	2	0.87	1.85	11	2.81	10.68
Drug-free treatment	0	0.00	0.00	2	0.51	1.94
NA/AA	1	0.43	0.93	21	5.36	20.39
Other	0	0.00	0.00	0	0.00	0.00
Other medical services	3	1.30	2.78	42	10.71	40.78
Mental health and family counseling	1	0.43	0.93	17	4.34	16.50
Housing and shelter	0	0.00	0.00	19	4.85	18.45
Food and clothing	1	0.43	0.93	40	10.20	38.83
Entitlements and financial assistance	4	1.73	3.70	44	11.22	42.72
Legal aid	0	0.00	0.00	10	2.55	9.71
Employment and vocational	3	1.30	2.78	31	7.91	30.10

*SC defines participation as accepting at least one referral for services; TCM defines participation as attending at least one appointment.

†Excludes methadone detoxification obtained through the HBP coupon program

- Outreach staff should accompany clients to their initial appointments at referral agencies. With moral support and practical assistance, clients should attain higher levels of followthrough in keeping appointments. Outreach staff might also be utilized to contact clients who fail to keep TCM appointments and encourage continued participation.
- The number of TCM sessions should be increased for clients who make progress in dealing with their problems, but for whom a transfer to an agency providing continuing case management has not been achieved. Although TCM staff tried dutifully to make handoffs to other agencies, many clients completed the program before securing ongoing service elsewhere. Extending TCM until handoffs have been arranged should help to ensure effective transitions to other agencies.
- Clients should be invited to return to TCM for followup sessions when they experience difficulties. This enhancement may keep adventitious misfortunes from undoing the progress achieved by TCM, and it should improve relations with clients by assuring them of the staff's continued interest.
- Coupons redeemable in the community for groceries, public transportation, clothing, or other necessities might be given to clients to compensate them for participating in TCM. The HBPs enjoyed strong participation in their interview programs because they paid subjects \$10 for interviews and \$5 for blood samples. Given the public health goals of TCM, the expense of distributing coupons might be justified if rates of participation can be raised above the 25-percent rate experienced to date. Such incentives would be cheap compared with medical costs saved if they prevent one HIV infection per year by involving more people in risk reduction. However, care should be taken to ensure that coupon payments do not become coercive for clients, subsidize use of illicit drugs, or degrade participation by creating an incentive for false appearances of compliance.

DISCUSSION

The overriding goal of TCM as a service model is to complement the recruitment function of an outreach project by efficiently placing clients with established agencies in the social service and medical treatment systems. Because of the limits of TCM, it may not be possible to address all the needs identified in initial or subsequent assessments with a client. The case manager must often accept placement for one or two key problems as a strong outcome, especially if the placement is coupled with transferring responsibility for continuing case management to another agency. When continuing care can

be arranged, TCM often takes clients from the fringes of the social service system to new opportunities. Because disenfranchised citizens such as IDUs and SPs often lack access to essential services, a short-term intervention attempting mainly to place clients for help with their most pressing personal needs represents a positive force. If performed thoughtfully and with sympathy and energy, TCM may cumulatively help many people with serious needs. The data presented above show that TCM is a promising, though improvable, intervention for recruiting IDUs and SPs, especially women, into the medical and social service system.

This conclusion addresses only the client service goals of TCM. The public health goal of limiting HIV transmission is addressed only indirectly in this chapter. The impact of TCM on reduction of AIDS risks and eventually on incidence of infection is extremely difficult to assess. In the hope that TCM has measurably affected rates of transmission, a next phase of evaluation will link the program data reported above to data on risk reduction from HBP followup interviews.

NOTES

1. For more complete analysis of seroprevalence data on the early cohorts of the Newark and Jersey City studies, see Iguchi et al., in press.
2. The term "underclass" is not used in a pejorative sense, as criticized by Wilson (1987), for example, nor does it involve reference to race or ethnicity. It is used in a technical sense deriving from well-established theories of social class (Weber 1947). A social class is an extensive social grouping that derives its solidarity from a common interest position in the relations of production. An underclass is a grouping denied participation in the system of production and whose interests are defined essentially outside it. They may crystallize around opportunities for entering or changing the economic system or around transfer payments, illegal pursuits, and entirely extra-economic activities. Members of an underclass commonly bear heavy psychosocial burdens due to the lack of honor attached to their social positions. Many citizens of even the poorest communities in Newark and Jersey City are members of the working class and share the social honor and economic interests of that class. However, local communities may be heavily burdened by the prevalence of underclass membership and by outside perceptions that all residents belong to the underclass.

REFERENCES

- Anderson, E. *A Place on the Corner*. Chicago: University of Chicago, 1978.
- Anderson, E. *Street Wise: Race, Class, and Change in an Urban Community*. Chicago: University of Chicago, 1990.
- Benjamin, A.E.; Lee, P.R.; and Solkowitz, S.N. Case management of persons with acquired immunodeficiency syndrome in San Francisco. *Health Care Financing Rev* Annual Supplement:69-74, 1988.
- Centers for Disease Control. Update: Acquired immunodeficiency syndrome associated with intravenous drug use—United States, 1988. *Morbidity Mortality Weekly Rep* 38(10):165-170, 1989.
- Centers for Disease Control. *HIV/AIDS Surveillance*. Atlanta, GA: Centers for Disease Control. February:6-7, 1992.
- Des Jarlais, D.C., and Friedman, S.R. HIV infection among intravenous drug users: Epidemiology and risk reduction. *AIDS* 1(1):67-76, 1987.
- Gould, L.; Walker, A.L.; Crane, L.E.; and Lidz, C.W. *Connections: Notes from the Heroin World*. New Haven, CT: Yale University, 1974.
- Iguchi, M.Y.; Lidz, V.; Bux, D.A.; Platt, J.J.; Baxter, B.; Kushner, H.; and French, J. "Interpreting HIV Seroprevalence and Seroconversion Data: Newark and Jersey City IDUs." Paper presented at The Third Annual NADR Conference, Washington, DC, October 1991.
- Iguchi, M.Y.; Platt, J.J.; French, J.; Baxter, B.; Kushner, H.; Lidz, V.; Bux, D.; Rosen, M.; and Musikoff, H. Correlates of HIV seropositivity among injection drug users not in treatment. *J Drug Issues*, in press.
- Liebow, E. *Tally's Corner; A Study of Negro Street Corner Men*. Boston: Little, Brown, 1967.
- Mechanic, D., and Aiken, L.H. Improving the care of patients with chronic mental illness. *N Engl J Med* 317(26):1634-1638, 1987.
- New Jersey Department of Health, AIDS Data Analysis Unit. "Acquired Immunodeficiency Syndrome—Newark City Residents as of January 31, 1990." Unpublished report, 1990.
- Nieves, E. Delays paralyze Newark's efforts to house poor. *The New York Times*, February 3, 1992. pp. A1, B2.
- Platt, J.J.; Iguchi, M.Y.; Lidz, V.; and Bux, D.A. AIDS and drug abuse in the United States and New Jersey: Issues and interventions. *Proceedings of the German Society for Addiction Research*, in press.
- Rife, J.C.; First, R.J.; Greenlee, R.W.; Miller, L.D.; and Feichter, M.A. Case management with homeless mentally ill people. *Health Soc Work* 16(1):58-67, 1991.
- Rothman, J. A model of case management: Toward empirically based practice. *Soc Work* 36(6):520-528, 1991.

- Sonsel, G.E.; Paradise, F.; and Stroup, S. Case-management practice in an AIDS service organization. *Soc Casework: J Contemp Soc Work* June:388-392, 1988.
- Watters, J.K. Meaning and context: The social facts of intravenous drug use and HIV transmission in the inner city. *J Psychoactive Drugs* 20(2):173-177, 1987a.
- Watters, J.K. "Preventing Human Immunodeficiency Virus Contagion Among Intravenous Drug Users: The Impact of Street-Based Education on Risk-Behavior." Paper presented at III International Conference on AIDS, Washington, DC, 1987b.
- Watters, J.K.; Case, P.; Huang, K.H.C.; Cheng, Y.T.; Lorvick, J.; and Carlson, J. "HIV Seroepidemiology and Behavior Change in Intravenous Drug Users: Progress Report on the Effectiveness of Street-Based Prevention." Paper presented at the IV International Conference on AIDS, Stockholm, Sweden, 1988.
- Weber, M. *The Theory of Social and Economic Organization*. New York: Free Press, 1947.
- Wiebel, W.W. Combining ethnographic and epidemiologic methods in targeted AIDS interventions: The Chicago model. In: Battjes, R.J., and Pickens, R.W., eds. *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives*. National Institute on Drug Abuse Research Monograph 80. DHHS Pub. No. (ADM)89-1567. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 137-150.
- Willenbring, M.L.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. Washington, DC: U.S. Public Health Service, February 1991.
- Wilson, W.J. *The Truly Disadvantaged*. Chicago: University of Chicago, 1987.
- Young, S.R. The impact of AIDS on the health care system in New Jersey. *NY State J Med* May:258-261, 1988.

ACKNOWLEDGMENTS

Research reported in this chapter was conducted as part of the AIDS Community Outreach Demonstration Projects of Newark and Jersey City, operated in cooperation with NJDOH, Division of Alcoholism and Drug Abuse with assistance from the Division of AIDS Care and Prevention. It was supported by National Institute on Drug Abuse grants DA-05286 and DA-05289 and by the Newark AIDS Service Demonstration Project grant BRH-0000-70-02 from the Health Resources and Services Administration. Continuation of the case management program is presently supported by a grant from the City of Newark, Department of Health and Human Services, with Federal funding under the Ryan White HIV Emergency Relief Act, Title I.

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Delivering Case Management Using a Community-Based Service Model of Drug Intervention

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Although case management is being widely adopted as an intervention strategy to ameliorate a multitude of human problems, the philosophy and practical application of the term vary widely by program, service provider, and target population (Bachrach 1989). The authors' study, the Neighborhood Outreach Demonstration Project (NO DP), is engaged in longitudinal research to develop and evaluate a community-based service (CBS) model for use with drug-dependent populations. The CBS model incorporates two components designed to stop or reduce drug dependency among active and recovering substance abusers. The first strategy uses case management techniques to promote drug-free living and prevent relapses to drug use. A service team consisting of a case manager and an indigenous outreach worker provide counseling, advocacy, and referral services; linkages to medical and social service providers; and preventive materials and education for stopping the spread of the human immunodeficiency virus (HIV). In the second strategy, the team works with project participants to organize and facilitate the latter's participation in a peer-support self-help group designed to encourage drug abstinence and the adoption of patterns of behavior that reduce HIV transmission.

Utilizing network outreach techniques, the study is recruiting a total of 200 active drug abusers in a northside and a southside Chicago neighborhood. Individuals are eligible for inclusion in the study if they report having used an illegal drug during the previous 6 months, have experienced physical or psychological problems because of drug use, and express a desire to become drug-free. Once enrolled, subjects are randomly assigned to a standard (control) or CBS-enhanced group in their respective community settings for comparison, using a blocked randomization procedure to ensure balance in the number of allocations made to each group (Meinert 1986). The study is designed to answer the question, "Does the CBS model, which combines

community-based case management and peer-support techniques, provide the social support needed to assist active substance abusers in reducing or ending drug use?"

THE CBS CASE MANAGEMENT MODEL

Although the delivery of social support through case management has received renewed attention since the 1960s, the concept has a long history in the tradition of social work (Kanter 1985). Case management has been used to intervene with such diverse human conditions as acquired immunodeficiency syndrome (AIDS) (Froner and Rowniak 1989; Broadhead and Fox 1990; Kotarba 1990; Cook et al. 1991), chronic illness (Wissow et al. 1988; Wool et al. 1989), the infirmities of aging (Seltzer et al. 1987; Kerr and Birk 1988), and mental illness (Shueman 1987; Anthony et al. 1988; Kanter 1985; Borland et al. 1989).

The CBS model of case management is designed to stop or reduce drug dependency among active and recovering drug users by providing them with the social support needed to adjust to the demands and to counter the problems of living drug-free in the community. It draws heavily on the Chicago model of community intervention that combines an innovative application of medical epidemiology (de Alarcon and Rathod 1968; de Alarcon 1969; Hughes and Crawford 1972; Hughes et al. 1972) with the established capabilities of ethnography to offer insight into the social worlds of addiction (Lindesmith 1947; Becker 1953; Finestone 1957; Shick and Wiebel 1981; Wiebel 1988). Under the CBS model, the case manager meets formally on a regular basis to help the individual set realistic goals for recovery, talk over difficulties that the person faces, link the person to medical providers and social service agencies to meet his or her physical and psychosocial needs, help the individual to effectively and appropriately utilize existing services, and provide education on drug-related problems, including HIV transmission. The case manager also monitors the person's progress and serves as an advocate when needed. Working in close consultation with the case manager, the indigenous outreach worker assists the participant on a less formal basis by providing on-the-street support. The duties of the outreach worker include establishing ties between the program and members of drug-using networks, informing prospective participants about the CBS project, helping CBS participants find transportation and follow through on medical and social service appointments, monitoring their health and well-being through contact with them in the community and within drug networks, and serving as a source of encouragement to the individual in undertaking the changes needed to reduce or stop illegal drug use and its related activities.

A major strength of the team approach is that it combines the skills and resource mobilization of a professional case manager with the outreach capacities, insider's knowledge, and network ties of the indigenous worker within targeted drug populations. Two-person teams are ideal because each member can check the other's perception of a particular case and also draw on independent experience with that person under differing conditions and social environments (Froner and Rowniak 1989). When viewed as a unit, the team functions to (1) help the person set realistic goals and determine strategies to meet them; (2) identify resources, including service entitlements and personal reserves available to bring about change; (3) link the person to the social service system; (4) provide advocacy when necessary; (5) help in the development of a network of supportive relationships; (6) monitor progress; and (7) assist in resetting goals as appropriate.

In the second component of the model, the case management team mobilizes the efforts of CBS group participants in the project to form and maintain membership in a professionally assisted self-help group. These groups provide encouragement, a system of beliefs that reinforces positive attitudes and behavior, and practical suggestions for bringing about change through the advice and social support of individuals who find themselves in similar situations (Gartner and Riessman 1979).

The peer support component of the CBS model draws conceptually on the community self-help movement that emerged during the late 1960s and early 1970s. Self-help groups have proven effective in helping people cope with a variety of medical and social problems. Popularly known self-help organizations include Alcoholics Anonymous (AA), Narcotics Anonymous (NA), Weight Watchers, Widow to Widow, and Hospice. Groups such as AA and NA often succeed in assisting individuals to manage the social problems related to withdrawal from substance abuse.

Two features of the CBS model differ significantly from traditional peer-support groups organized around issues of drug dependency. First, in contrast to groups such as AA and NA that incorporate a singular philosophy of recovery that members are strongly encouraged to endorse, CBS participants define the philosophical ethos, agenda, and content of support-group meetings according to what they perceive as appropriate for becoming drug-free. Thus, each group tailors its efforts to meet the needs and interests of its particular membership composition, and each differs somewhat in its behavioral norms and practices, contextual properties, and collective beliefs. Second, unlike most groups substance abusers attended during institutionalization for drug treatment or as a means to stabilize recovery after release, CBS self-help groups initially comprise active, on-the-street addicts who may or may not choose to

subsequently enter treatment. The project staff has found, however, that participation in the group often acts as a stepping stone to treatment when individuals see others select this option. In time, these individuals are expected to return as recovering addicts who can act as stage models for others in the group.

Despite initially accepting participants who are actively engaged in drug use, the self-help concept appears to offer CBS peer-group participants many of the same benefits experienced by recovering addicts in more traditional settings. These include sustaining a common world view in relation to drug use, helping members to live successfully in the "straight community," making advice available from more experienced members to those with lesser experience in controlling drug dependency, providing successful role models, discussing problems and coping devices, and developing a positive identity and self-image (Nurco et al. 1983). During meetings, group interactions reinforce and reward reduction and abstinence by providing the client with non-drug-related interests and a network of new friends and acquaintances to replace his or her "running mates." As one project participant explained:

I know since I've been in this group, I've found other things to do besides going on 53rd Street to find the dope man. I ride the bus, I go down to the fountain and stick my feet in the water on a hot day and just think. It feels good.

Under the CBS model, it is expected that as drug use decreases or ends, group processes will motivate members to shift their focus from managing the problems of active substance abuse to meeting the challenges of successful employment, community involvement, family participation, leisure activities, and remaining drug-free. This goal is salient to group members for, as one woman expressed, "I feel we are role models for the community. If we do well, we can show the community there is hope for others."

CHALLENGES AND BARRIERS IN MODEL DEVELOPMENT

One of the fundamental challenges of developing and testing a theoretical model lies in the praxis of transforming the ideal into everyday practice. Hiring staff members with the appropriate skills and values to implement their tasks is essential. Also, educational and socialization guidelines and procedures are needed to communicate the specifics and spirit of the model to those charged with a particular staffing role. Despite careful screening and socialization, however, all employees bring some level of task preferences, preconceived notions, and entrenched beliefs about how a project ought to operate and their role in this process. These biases and beliefs color their work performance and have a critical impact on model development.

The effects of these personality characteristics become apparent when comparing similarities and differences in the activity reports of the project's two case management teams. The entries in one log suggest an emphasis on providing brokering services, whereas the other reports a greater portion of time devoted to counseling activities related to curbing drug use. Although it is apparent that the project's two subpopulations differ somewhat in their case management needs, staff interviews reveal that these service allotments also parallel the interests, formal training, and previous work experiences of the two case managers. Over time, the performance of each team should be enhanced by a cooperative exchange of skills and contacts as the goals of the project become better articulated and understood. Inservice training and monitoring of services clearly are needed to promote a better standardization of services where appropriate.

Traditionally, the skills needed to fill the position of case manager have been associated with the professional training of a social worker. In practice, however, case managers have been drawn from a variety of fields, work experiences, and levels of training (Leukefeld 1990). Although it has been argued that case management requires only a "minimal level of skills" to be effective (Ozarin 1978), experience with the multiple needs of the CBS population indicates that an effective community-based case manager needs a thorough understanding of the social service and drug treatment system. Possession of this grounding, which may be gained in a variety of methods, supersedes any single form of training or prior employment experience. Case management can be taught (Anthony et al. 1988), and the authors' experiences with outreach workers as members of the case management team suggest that such skills can be acquired on the job and through inservice training.

Outreach workers who are indigenous to the community are critical to successful community-based intervention because they are familiar with the subcultural mores and sociogeographic boundaries of a target population and are perceived as credible by its members (Johnson et al. 1991). In street-based drug and HIV intervention programs, outreach workers frequently are former addicts. They have been conceptualized in the literature as the "professional ex" (Brown 1991) because their occupational roles permit them to use the experience, contacts, and knowledge gained through former addiction to bring about change with others who are struggling with the problems of recovery and active drug use.

The general lack of discussion in the outreach literature coupled with a diversity of opinion among staff members in various outreach projects indicate that it is not clear how long the individual should be an "ex" before being hired. Hiring

outreach workers with a relatively recent period of recovery can be an asset because their network contacts and experiences are current. On the other hand, outreach duties require the worker to interact closely with street addicts, drug dealers, and possibly former running mates actively engaged "in the life." It is possible that individuals in recent recovery may be more likely to relapse when occupationally reentering the social worlds of drug networks than workers with longer histories of sobriety. Yet, the temptations of recidivism apparently remain great at any stage. During an inservice training, one outreach worker employed for several years on a project affiliated with NO DP once confessed that "I still have dreams about fixing." Other outreach workers in the room admitted to having similar fantasies.

Relapse seriously compromises outreach workers' abilities to carry out their tasks (Johnson et al. 1991) and potentially jeopardizes project participants' confidence and trust. Prevention strategies include holding stress-related inservice training and helping staff members identify tactics to use when feeling the pull to use drugs. One seasoned outreach worker who was asked to share her method with neophytes at a recent workshop reported that she "listens to her music" when she gets tempted; another worker reported seeing his "shrink"; for another, stress reduction entailed talking to his coworkers. The project also encourages workers to attend recovery meetings, even during working hours, whenever they feel it is necessary. For example, outreach workers who enter a shooting gallery or copping (drug-buying) area while helping a project participant resist using drugs may need immediate social support for themselves should temptations toward drug use resurface.

Experience in NO DP and observations of others indicate that not all individuals will succeed in avoiding relapse. When such tactics fail, programmatic policies are needed that assist employees with getting formal help and support when necessary. Also, from a project standpoint, outreach responsibilities must be organized in ways that permit a smooth and efficient transfer of duties when necessary. A prime example is the need to keep locator forms current so that project participants can be located should drug relapse force an outreach worker to take time off or suddenly leave the project.

The ability of the case management team to link clients to needed services is partly the function of the types, quality, and number of services available (Franklin et al. 1987; Anthony et al. 1988). In the context of the current economic climate, times are tough and communities are reducing programs, entitlements, and the number of drug treatment slots. Meanwhile, governmental funding for programs also is decreasing, thus reducing former levels of services and making eligibility criteria more stringent and limiting. The recession also has made finding and retaining employment more difficult,

with the result that it is harder for people to function without some form of social support. As one frustrated CBS participant explained:

They got these big signs up there saying 'I'm hiring' but they don't hire me. It took my sister 2 years to find a job. She sure walked a lot of places, lots of doors closed in her face. And it was hot and cold out there, but she got one. I just got discouraged a bit, but I ain't given up.

Case management principles and practices cannot solve these system-level problems (Wool et al. 1989), although they affect CBS outcome measures by setting the opportunities and parameters for case management success. Thus, current evaluation of the model occurs within a set of social and economic forces that might prove more benevolent or less generous to success at different times. The effects of such temporality on outcome are difficult to tease out or resolve.

Because it is designed to reduce service overlap and ensure effective coordination of services, case management is believed to be cost-efficient when compared with other customary forms of service delivery (Franklin et al. 1987). Good case management, however, typically requires an expensive investment per client. Therefore, it has been argued that "the choice of cases should be made carefully to ensure they are the ones that benefit most from intervention" (Shueman 1987, p. 316). Such selection, however, is inappropriate for a research demonstration project whose recruitment methods purposely avoid "creaming" a pool of prospective subjects and the study design calls for random assignment to a standard or enhanced group. Thus, attempts to evaluate the success and cost-effectiveness of the CBS model as it might be implemented by a typical community agency or program are constrained by adherence to the necessary research demand that all participants receive equal effort and access to a randomly assigned level of service.

CHALLENGES AND BARRIERS IN WORKING WITH THE TARGET POPULATION

People with serious drug dependencies often face multiple health and psychosocial problems. These include the need for adequate housing, food, medical care, day care for their children, and health screening for untreated illness. Typically, they have few social resources for meeting these problems. Frequently, they are unemployed or work in a marginal capacity. Many have little contact with their families or have severed family ties completely. As one project participant explained, "I don't have anyone. I got a man to live with who beats me, who does drugs, and that's all I got."

Because of the enormous need of active substance abusers, working with them constantly drains staff energy and project resources. What levels and types of support to offer a particular client and how to avoid having the client become dependent on the program present a difficult and nagging dilemma for the project staff. Decisions typically are negotiated on a case-by-case basis within the context and constraints of the project's finite resources.

Although the CBS goal is to help the client set realistic goals, clients can become disillusioned with the project when participation does not culminate in some desired service such as finding a job or regaining custody of their children:

I been getting so frustrated, I been looking for a job but nobody calls. My baby asked me for a bag of potato chips for 25 cents and I ain't got that. It seems like the whole city needs help but they don't need my help. I just about to give up but I can't. But I'm furious. Every day when I come here I want to get a damn bag because I'm mad.

Realizing such desired outcomes may be influenced by factors such as low educational skills or a past history of drug arrests that are beyond the control of the management team. Frustration and a sense of engulfment are not uncommon feelings among management team members, particularly when the pressures of personal and program expectations define success in ways that create unrealistic expectations (Levy and Gordon 1987).

Although the CBS goal is to help the client set realistic goals and take responsibility for achieving and maintaining drug-free living, such autonomy takes time to develop, and the trajectory of progress frequently is punctuated by instances and periods of relapse. One former cocaine abuser refers to this process as a "roller coaster ride" in which the user travels along a psychological fast track of highs and lows in motivation and recurrent drug use. Consistent with this analogy, participants in the project often demand services at one point and lose interest in them at other times, a practice that influences the person's progress and has implications for the functioning of the case management team. For example, making appointments and setting up treatment plans can be frustrating when clients fail to keep them. Strategies such as having the outreach worker accompany the client ensure that the person carries through.

Even with peer support to encourage the maintenance of sobriety, the temptation to return to drugs is an ongoing problem, as the following exchange among self-help group participants attests:

Janet: I haven't stuck myself for 10 days, I don't feel good today, but this program has saved my life. You use the program to your advantage, but you have to be consistent. I wanna shoot the stuff—you know—but I know I can't. The problem is when that train said 35th, my stomach started to turn. I started thinkin' about reaching.

Bill: Yeah, the same thing happens to me when I see 47th Street. I think about some stuff. It's up here [he points to his head]; the neighborhood can trigger negative thoughts.

Jim: When I leave here, I got to get straight on the bus and get out of here or I don't know if I can resist the cop man.

Because of the roller coaster aspects of most drug use trajectories, monitoring client progress is an important case management function. Although such observation may be relatively easy when working with addicts in an institutional setting, it is considerably more problematic when working with street addicts who typically are difficult to locate unless they voluntarily and consistently maintain contact with the project.

In general, the lives of most street addicts are characterized by poverty, unemployment, and preoccupation with mere physical survival. As one project participant confessed, "I live just one day at a time, that's all I can afford." To generate sufficient money to maintain their drug habit, many street addicts engage in illegal activities that carry severe negative sanctions should they be caught (Johnson et al. 1991). The substance abuser's need to maintain a low profile to avoid attention from law enforcement or their victims complicates followup (Wiebel 1990). Many street addicts disguise their identity by using street names or aliases (Anderson 1990), change addresses frequently, and "cop" in new areas to avoid troublesome contacts that might lead to problems. For example, one of the northside participants currently is hiding from his "connection" to avoid retribution for stealing the latter's stereo equipment to hock for drugs. Also, because drug addiction can lead to serious health problems (Faupe! 1991), unexpected hospitalization or even death contributes to unexplained disappearances. Thus, the unpredictability and hidden nature of being "in the life" pose a set of challenges and barriers for the case management team in monitoring the progress of project participants. Experience has shown, however, that once the team earns a participant's trust, most clients check in routinely on their own or respond positively to attempts to find them.

Meanwhile, even the task of mobilizing resources available through other providers may require a level of investment that the project cannot provide. The demand for bus tokens, for example, appears almost inexhaustible; clients legitimately need them to attend self-help groups, get to doctor's appointments, go for job interviews, or come in to see their case manager, but tokens also have a ready street value that permits them to be converted easily to cash or traded at the local liquor store. A similar market exists for condoms dispensed by the project to reduce HIV transmission—they are readily sold to the local pornographic shops for a fraction of their cost. Some misuse of project-dispensed materials is to be expected because street addicts are astute at finding ways to generate quick sums of money. In acknowledging this inevitability, staff members must decide how to ration the project's available resources and to spot "scams" that conflict with project goals.

Currently in the CBS model, the emphasis has been on providing support to the individual with an addiction problem. However, addiction seldom is a socially isolated condition. Rather, friends, family members, "associates," and other participants in the person's social network typically play a role in creating and maintaining the addiction. It is not uncommon for these ties to sabotage or undermine the person's attempts at recovery and pull him or her back into the abuser's role. One client explained:

My boyfriend is so jealous of my coming here. He was one of those once-in-a-while users, so I don't think he understands the way of a dope fiend. When I go home from here, he is going to sit there and have an attitude, this attitude he's got. I just don't get it. He's not happy when I get high or don't get high. He always brings up my past. He never lets me live it down. He won't even talk about using condoms. My mom thinks he's afraid that I'm going to become independent.

A limitation of the CBS model as it is currently being delivered is that its case management thrust primarily intervenes at the individual level. Although the philosophy of the model recognizes the need for the substance abuser to develop and redefine existing relationships, this goal is difficult to assist without directly interacting with the members of the person's immediate social network. Part of the CBS challenge, then, lies in helping the person identify resources and means to build new relations and positively transform or withdraw from relationships such as those described by one CBS participant:

Yeah, the hardest thing for me is all the people I know get high. When I get around them, they are high and I'm not.

And they are uncomfortable around me. So what I'm working on is finding a new block, a new boulevard with people who don't get high, but it is hard to find 'em down here.

Family and friends constitute a potential source of family support that the case management team can focus on building and better utilizing. Case management time also is spent helping participants to develop more effective parenting skills and to obtain and organize the resources needed to provide their children with a more healthful, more nurturing environment.

DEVELOPING SERVICE LINKAGES

When setting up the NO DP project, the staff quickly discovered that, for effective case management, other resource groups and agencies needed to learn about the project and its goals. To accomplish this, the case management teams developed short talks to deliver at churches and schools along with brochures to hand out to prospective clients. Visibility also was enhanced through participation on community social service boards and committees, attendance at local events, and by inviting members of social agencies to participate in the project's inservice training. These actions helped forge linkages and reciprocities at both the organizational and the systems levels.

Overall, it can be difficult for individuals to navigate a pathway unassisted through the various programs and agencies potentially available to them. A function of case management is to "humanize a system that can otherwise be pretty damaging and destructive" (Weisman 1987, p. 382). Experience in dealing with the system has convinced members of the project's case management teams that gaps in services are the product of red tape and bureaucratic processes. Case managers and outreach workers perceive a high degree of insensitivity to client needs on the part of health care providers, public aid facilities, and drug treatment centers. Interviews with project participants reveal a similar perception of powerlessness and forced dependency. For these reasons, a case manager or outreach worker may choose to accompany a project participant on an initial service visit. As one case manager explains, "Whenever possible, I like to take clients in and introduce them to the staff person they will be seeing in the program. Next time when they go in on their own, the person behind the desk will remember who they are and that they have someone looking out for them."

Although building organizational cooperation is crucial to the success of a case management project, getting services rests strongly on the case management

teams' knowledge of how to "work the system." As one case manager argues, "If I didn't already know the networks of service agencies and the people who work in them, my job would be much more difficult." Working the system requires accessing a fragmented and diverse system of organizations and programs that include governmental and private agencies, methadone treatment centers, food pantries, legal aid societies, nursing homes, and residential living centers.

Typically, a case manager who has been working in the field for a while has built up a history of reciprocities and favors owed to or by others. Case managers and outreach workers who are former addicts often are familiar with the intricacies of the health and treatment system through personal experience. It is not uncommon for them to know each other from the street or to have been in treatment with another ex-addict who now holds a position of authority within the social service system. In some instances, getting services for a client with special needs may require "using a chip" or in some way trading on goodwill that has been previously established. Gaining service also may rest on the unspoken promise that the case manager will assist if problems arise (Kanter 1985). Such relationships have a downside, however (Netting et al. 1990). The social service system also functions as a revolving door with service providers moving in and out of specific agencies and positions. Consequently, a potential always exists for the case management team to expend considerable effort cultivating a personal relationship only to have that person leave the agency, resulting in a loss of influence.

On the positive side, the revolving door also results in a service environment in which new resources, programs, and personnel become available as others dwindle or shut down. Consequently, building service linkages entails scanning the community for new sources of help. Relationships with one program or agency can produce a ripple effect that leads to service ties with others. For example, personnel at one agency advised one of the project's case managers that money was available from a private trust administered by another program. Contact with this second agency yielded money for a client's back rent at a local halfway house; this contact in turn laid the groundwork for future referrals between the sheltered living facility and the project.

The street addict's understandable distrust of social control agents and other society "officials" leads to service barriers related to maintaining contact with the client. Until a level of trust has been established, study participants may falsify personal information or refuse to provide their legal names or addresses to the project staff. At times, participants may not be purposely deceptive about their whereabouts or associations but may forget to mention that the name that they have listed on the mailbox or buzzer of a residence differs from their own

(Johnson et al. 1991). Friends or relatives may refuse to cooperate in tracing a client to avoid becoming involved or placing the person in possible jeopardy. Not having ready access to an individual makes it difficult to link clients to other programs and agencies when ready access to or an immediate response from the substance abuser is required or a stable living arrangement is needed.

In some cases, the work of the case management team partly entails helping the client amass the various records and personal data required to prove eligibility for service entitlements. The homeless street addict may not have the birth certificate needed to establish eligibility or access to a safe place to store important documents—a situation that sometimes results in the person entrusting them to the project's files for safekeeping.

Working in this capacity with local agencies creates a need for procedures to govern the storage and movement of project-gathered information that might prove harmful to participants if it becomes public. In this regard, all study participants are asked to sign a consent form that outlines the specifics of the study and the possible dangers of participation when joining the project. In addition, all client information is kept in a locked file to which only the case management team has access. Research data released to the University of Illinois for the study's analyses are transmitted with all personal identifiers removed. Also, information about a client is never released to or requested from an agency unless the client has given written permission specifying exactly what information will be transmitted and the purpose for which it will be used. When tracing clients through personal networks, staff members are careful not to reveal the purpose of the project or the nature of the person's participation to those who are contacted.

EVALUATION OF THE MODEL

Few empirical or comparative data on the efficacy of case management are available (Franklin et al. 1987), but agreement exists that assessing the efficacy of case management is a difficult task (Collard et al. 1990). As Fisher and colleagues (1988) note, few projects operationally define their concept of case management, making comparisons across studies difficult. Studies tend to have few subjects, and the timeframe for evaluation typically is less than a year. The longitudinal design, power sampling techniques, and triangulation of methods in this study are designed to offset these limitations. Measures and data collection techniques are described below.

Each CBS participant has a clinical record that includes a written recovery plan specifying the person's personal goals and the strategies that have been identified to meet them, progress notes compiled by the case management

team, and any documents or referral information needed to obtain services from other service providers. Both the case manager and outreach worker chart their interactions and activities on behalf of the study population. Daily activity reports of the case management team include (1) number of sessions/days an individual attended a self-help group, (2) numbers and types of agencies contacted, and (3) admission to other treatment modalities (e.g., outpatient programs or NA). Analyses of these and other case management statistics from the project provide a profile of what services are delivered and to whom, change in patterns of service use over time, and the effects of different levels and patterns of resource utilization in reducing or stopping drug use and recidivism.

The Addiction Severity Index (ASI-1) used at intake is a reliable and valid clinical/research instrument that assesses treatment problems found in alcohol- and other drug-abusing individuals (McLellan et al. 1985). The ASI-1 is a structured, 40-minute interview designed to evaluate problem severity in seven areas commonly affected by substance abuse: medical condition, employment, alcohol use, other drug use, illegal activity, family relations, and psychiatric problems. The ASI Followup (ASI-2) is used at followup and duplicates the ASI-1 except for items for which no change in status or behavior occurs over time.

The Symptom Check List-90-Revised (SCL-90-R) is used to determine levels of psychiatric discomfort at intake and followup. The SCL-90-R requires about 12 to 15 minutes to complete. Subjects score their distress with a symptom from 0 (not at all) to 4 (extremely).

The Social Support Instrument, developed by the research team, measures change in social support over time. The questionnaire records type of, use of, and satisfaction with support received from various sources, including family social service and medical providers, volunteer agencies, employers, and friends. It also records project participants' leisure activities, participation in community organizations, and social network affiliations.

An ethnographic component of the project focuses on the activities of participants at both field sites. The project ethnographer attends peer-support meetings at each field station, talks informally on a regular basis with the staff and participants in the program, and keeps a carefully written record of relevant transactions that occur among group members and between staff and group members before and after meetings. In addition, the ethnographer collects contextual data about the life experiences and drug networks of project participants by occasionally accompanying the outreach workers on their daily rounds. These data provide a "natural history" (Gallmeier 1988; Becker 1970; Circourel 1964) of the intervention and research process.

PRELIMINARY FINDINGS

The standard and CBS-enhanced groups drawn from each of the two community settings ultimately will contain 50 participants each, for a total of 200 research subjects. Toward this goal, 140 subjects were recruited by the end of the first 8 months in the field. Subjects' ages range from 20 to 65, with a mean of 42 years. Fifty-nine percent are male, and 41 percent are female. With the exception of one Hispanic participant, all subjects on the southside are black. This composition parallels the racial mix of the neighborhood. Examination of the demographic mix on the northside reveals greater racial and ethnic diversity, again reflecting the characteristics of the area. Few Hispanic subjects are enrolled in the project because they tend not to live in either neighborhood.

Although they may be polydrug users, subjects are rather evenly divided in perceiving either heroin or cocaine as their *major* problem of substance abuse. Scores on the ASI report that subjects' problems are mostly with drugs; all areas of functioning demonstrate moderate levels of distress. Responses on the SCL-90-R are mildly to moderately elevated, particularly somatic symptoms, obsessive compulsive symptoms, depression, anxiety, and paranoid feelings. Most subjects (82 percent) are not currently living with a spouse. Nearly 48 percent live in some form of living arrangement other than their own home or apartment.

Early statistics and field notes from the ethnographic component suggest at least four sets of findings related to programmatic issues. First, the reports of street addicts indicate that they do have some social support available to them should they need to borrow small sums of money, obtain a place to sleep overnight, or talk to someone about their problems. About 75 percent reported having at least one person to go to for help if needed.

A second programmatic finding is that the functions and activities of the case management team at each site are shaped by (1) their service preferences and prior work experiences and (2) the social environment and demographic characteristics of the study participants that they serve. Participants in the southside subsample confront a different set of barriers to drug-free living and present a different profile of needs than their counterparts on the northside. On the northside, for example, it is hard to go hungry because of the high number of food pantries and soup kitchens that exist. Meanwhile, in the absence of similar programs in their neighborhood, the almost exclusively black study population on the southside is far more likely to rely on real and fictive kin to obtain food when needed. For instance, the phrase "going for the cousins" (Stack 1973) refers to tapping into social support networks of

nonblood relationships. This diversity underscores Weisman's (1987) observation that case management strategies that work with one population or in a particular community setting may not work in another. Consequently, the NO DP staff has discovered that case management techniques must be tailored to fit the particular population and setting in which they are delivered.

Third, despite initial trepidation that no one would come, the staff was pleased to find that a core of project participants voluntarily attend the project's self-help group. Currently, one group operates at the northside station, and the southside offers four sessions weekly, including an all-women's group. Session attendance, which varies from as few as 3 people to highs of 12 and 13, is influenced by participants' self-perceived need and such external factors as the weather, holidays, time of the year, and the availability of resources to get there. Field notes indicate that participants use the groups to discuss and develop strategies for addressing problems of living and becoming drug-free. These coping devices and the encouragement of peer support can result in reduced drug use:

I gave up \$30 today by coming to group. I was asked to fix a guy's radiator but I said I had to go to group. Since I been coming to group, I only use two times a week instead of every day. For me, that's good.

Or abstinence:

Since I been in this group, I haven't got high at all. When I leave here, I feel good, I don't care what we talk about, I always feel good.

And the encouragement to remain drug-free:

I have a question. I'm addicted. If I get clean, can I still come to group? I've been clean for 2 months and I need this group to stay clean.

Finally, the staff was surprised to learn the extent to which the field station emerged as a critical way station on the road to sobriety. Project participants often use the field station as their "home away from home" and, in some cases, as their primary home base. Here they have access to a telephone to talk with service agencies, utility companies, and relatives; the field station telephone number also is given out to prospective employers to contact job applicants. The field station provides the homeless with a mailing address, a service that has proven particularly useful for one client who has her medications mailed there. For many clients, the field station becomes a refuge, an urban counterpart to an "oasis" or "island" in the street. Using ethnographic and

questionnaire data, the project staff intends to explore the role of the field station as an unanticipated aspect of the CBS model.

RESEARCH CONSIDERATIONS AND CONSTRAINTS

Over the next 4 years, it is anticipated that followup will remain one of the staff's most difficult challenges. Almost half the participants in this study live with friends, relatives, or in transient living conditions. Thus, they may not have "official" addresses. Street addicts also relocate geographically to avoid the networks of users who might pull them back into using drugs. In this regard, the project has continued to interview and follow the progress of a study participant whose goals for recovery included moving out of the region to be with her family.

Few street-level users have telephones (Johnson et al. 1991), a situation that makes it difficult to find them except through face-to-face contact and word of mouth. To offset this problem, many clients provide the telephone number of a friend, relative, or neighbor through whom they can be reached if needed. Some clients pool resources to share the cost of a telephone with a neighbor or family member whose name is listed. Because all study participants are promised confidentiality concerning their drug use and enrollment in the study, staff members are careful not to reveal compromising information about the person when contacting others.

Retaining participants in the study also involves tracking their whereabouts through the medical and criminal systems. During the first 8 months of the project, the staff maintained contact and conducted interviews with three participants who entered prison and with one who was hospitalized in the final stage of AIDS-related complications. Three participants died during this period, including the person with AIDS. By holding interviews outside the field station when necessary and by using locating tactics developed as part of a community-based AIDS intervention project (see Johnson et al. 1991 for a detailed discussion of these methods), the staff has managed to contact and conduct regular followup interviews with all but 1 of the 140 participants described previously.

A second research difficulty lies in developing the reporting framework and procedures for documenting services delivered to project participants. The case management teams perceive directing their efforts toward helping the project participants as their first priority. Consequently, they tend to resist reporting procedures that divert time from direct service activities. Moreover, although it is important to chart all major activities, it is not clear at what level of detail charting becomes dysfunctional. Recording every project-related

telephone call, including those where the person is not available, noting each casual contact with a project participant, and reporting all aspects of the person's life that become known to the team are overwhelming tasks. Consequently, the team has been experimenting with different techniques and reporting forms. Current strategies include keeping individual case management records, a daily activity form, and a bus token/transportation log.

Ensuring that the intervention staff understands and adheres to the spirit of the project's sampling design poses a third major difficulty. Staff members report feeling resentful and disappointed when sample randomization results in the assignment of a particularly promising individual to the standard group—an outcome that they consider undesirable despite continual reassurance that no one knows which group assignment ultimately will prove the more efficacious. Similar discomfort occurs when staff members are forced to redirect standard group requests for help to the project-prepared social service directory instead of their providing services. Because of the value dilemmas that maintaining a standard vs. enhanced group entail, the research staff must be constantly vigilant about monitoring and offering support to intervention staff and resist the temptation to unintentionally compromise the integrity of the research design by offering inappropriate services and resources to the standard group.

FUTURE DIRECTIONS

In summary, case management is more than a set of functional activities; it is also a process. Conceptually, it begins with the case manager assisting a person set realistic goals and identify the means to achieve them. Over time, it entails drawing on and creating the social support and resources needed to improve the person's quality of life and bring about desired change. It ends when the person has built sufficient social resources and skills to permit autonomy and self-management of the problem and his or her life.

Although this scenario represents the ideal case management trajectory, the drug intervention literature and experience with this project suggest that such a smooth, linear path to recovery is more likely to be anomalous than routine. Recovery from drug use is often marked by false starts and slippages; periods of sobriety may be broken by "chipping" or bouts of recidivism. Both case management and the route to recovery may vary significantly among project participants. As the NO DP study progresses and longitudinal data become available, it will be possible to chart the events that lead to success or failure along with the influence of case management and peer support groups on such outcomes.

As is true for case management, the role of social support in aiding people to stay off drugs remains a much-understudied area. Future analysis will focus on the roles and effects of social support and how its impact is modified by the type, strength, situation, and demographic status of the provider or user. For example, different types and uses of social supports have been documented among blacks, whites, and Hispanics. Age and gender also appear to be influencing forces. Some studies suggest that family members provide obligatory, instrumental support and friends provide optional and emotional support (Seeman and Berkman 1988; Antonucci and Jackson 1987). This study will be used to understand the nature and significance of social support systems currently available to the street addict, taking into account factors that influence differences in types and patterns of use. Based on these and other analyses and data, the final goal of the project will be to evaluate the efficacy of using the CBS model to reduce illicit drug use and to limit the spread of HIV.

REFERENCES

- Anderson, E. *Street Wise: Race, Class, and Change in an Urban Community*. Chicago: University of Chicago Press, 1990.
- Anthony, W.A.; Cohen, M.; Farkas, M.; and Cohen, B.F. Clinical care update: The chronically mentally ill. *Community Ment Health J* 24(3):219-227, 1988.
- Antonucci, T.C., and Jackson, J.S. Social support, interpersonal efficacy, and health. In: Carstensen, L., and Edelman, B.A., eds. *Handbook of Clinical Gerontology*. New York: Pergamon, 1987. pp. 291-311.
- Bachrach, L. Case management: Toward a shared definition. *Hosp Community Psychiatry* 40(9):883-884, 1989.
- Becker, H.S. Becoming a marijuana user. *Am J Sociol* 59:235-242, 1953.
- Becker, H.S. *Sociological Work*. Chicago: Aldine, 1970.
- Borland, A.; McRae, J.; and Lycan, C. Outcomes of five years of continuous case management. *Hosp Community Psychiatry* 40(9):369-376, 1989.
- Broadhead, R.S., and Fox, K.J. Takin' it to the streets: AIDS outreach as ethnography. *J Contemp Ethnography* 19(3):322-348, 1990.
- Brown, J.D. Preprofessional socialization and identity transformation: The case of the professional ex. *J Contemp Ethnography* (20)2:157-178, 1991.
- Circourel, A.V. *Method and Measurement in Sociology*. New York: Free Press, 1964.
- Collard, A.F.; Bergman, A.; and Henderson, M. Two approaches to measuring quality in medical case management programs. *QRB* January:3-8, 1990.
- Cook, J.A.; Boxer, A.M.; Cohen, M.H.; and Gath, E. The abusive concept of AIDS risk factor: Reports by women attending an inner city public hospital HIV clinic. *Sociol Pract Rev* 2(2):87-94, 1991.

- de Alarcon, R. The spread of heroin abuse in a community. *Bull Narc* 12:17-22, 1969.
- de Alarcon, R., and Rathod, N. Prevalence and early detection of heroin abuse. *B Med J* 2:549-553, 1968.
- Faupel, C.E. *Shooting Dope: Career Patterns of Hard-Core Heroin Users*. Gainesville, FL: University of Florida Press, 1991.
- Finestone, H. Cats, kicks, and color. *Soc Probl* 5:3-13, 1957.
- Fisher, G.; Landis, D.; and Clare, K. Case management service provision and client change. *Community Health J* 24(2):134-141, 1988.
- Franklin, J.L.; Solovitz, B.; Mason, M.; Clemons, J.; and Miller, G.F. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- Froner, G., and Rowniak, S. The health outreach team: Taking AIDS education and health care to the streets. *AIDS Educ Prev* 1(2):105-118, 1989.
- Gallmeier, C.P. Methodological issues in qualitative sport research: Participant observation among hockey players. *Social Spectrum* 8:213-235, 1988.
- Gartner, A., and Riessman, F. *Self-Help in the Human Services*. San Francisco: Jossey Bass, 1979.
- Hughes, P., and Crawford, G. A contagious model for researching and intervening in heroin episodes. *Arch Gen Psychiatry* 27:149-155, 1972.
- Hughes, P.; Senay, E.; and Parker, R. The medical management of a heroin epidemic. *Arch Gen Psychiatry* 27:585-591, 1972.
- Johnson, W.; Ouellet, L.; and Wiebel, W.W. A social network approach to following up street-level intravenous drug users. In: Nurco, D., ed. *Follow-up Fieldwork: AIDS Outreach and Intravenous Drug Use*. Rockville, MD: National Institute on Drug Abuse, Division of Community Research, 1991. pp. 73-85.
- Kanter, J.S. Case management of the young adult chronic patient: A clinical perspective. In: Kanter, J.S., ed. *Clinical Issues in Treating the Chronic Mentally Ill: New Directions for Mental Health Services*. No. 27. San Francisco: Jossey-Bass, 1985.
- Kerr, M.H., and Birk, J.M. A client-centered case management model. *Quality Rev Bull* September:279-283, 1988.
- Kotarba, J.A. Ethnography and AIDS: Returning to the streets. *J Contemp Ethnography* 19(3):259-270, 1990.
- Leukefeld, C.G. Case management: A social work tradition. *Natl Health Line* 15(3):175-179, 1990.
- Levy, J.A., and Gordon, A. Stress and burnout in the social world of hospice. *Hospice J* 3(2/3):29-51, 1987.
- Linesmith, A. *Opiate Addiction*. New York: Free Press, 1947.
- McLellan, A.T.; Luborsky, L.; Cacciola, J.; Griffith, J.; Evans, F.; Barr, H.L.; and O'Brien, C.P. New data from the Addiction Severity Index: Reliability and validity in three centers. *J Nerv Ment Dis* 173:412-423, 1985.

- Meinert, C.L. *Clinical Trials, Design, Conduct, and Analysis*. Vol. 8. New York: Oxford University Press, 1986.
- Netting, F.E.; Williams, F.G.; Jones-McClintic, S.; and Warrick, L. Policies to enhance coordination in hospital-based case management programs. *Health Soc Work* 14:15-21, 1990.
- Nurco, D.N.; Wegner, N.; Stephenson, P.; Mahofsky, A.; and Shaffer, J.W. *Ex-Addicts' Self-Help Groups*. New York: Praeger, 1983.
- Ozarin, L. The pros and cons of case management. In: Talbott, J., ed. *The Chronic Mental Patient*. Washington, DC: American Psychiatric Association, 1978. pp. 154-177.
- Seeman, T.E., and Berkman, L.F. Structural characteristics of social networks and their relationships with social support in the elderly: Who provides support? *Soc Sci Med* 26(7):737-749, 1988.
- Seltzer, M.M.; Ivry, J.; and Litchfield, L. Family members as case managers: Partnership between the formal and informal support networks. *Gerontologist* 27(6):722-728, 1987.
- Shick, J., and Wiebel, W. Congregation sites for youthful multiple drug abusers: Locations for epidemiological research and intervention. *Drug Alcohol Depend* 7:63-79, 1981.
- Shueman, S. A model of case management for mental health services. *Quality Rev Bull* September:314-317, 1987.
- Stack, C.B. *All Our Kin: Strategies for Survival in a Black Community*. New York: Harper & Row, 1973.
- Weisman, E. Practical approaches for developing a case management program. *Quality Rev Bull* November:380-382, 1987.
- Wiebel, W.W. Combining ethnographic and epidemiologic methods in targeted AIDS interventions: The Chicago model. In: Battjes, R.J., and Pickens, R.W., eds. *Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives*. National Institute on Drug Abuse Research Monograph 80. DHHS Pub. No. (ADM)89-1567. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 137-150.
- Wiebel, W.W. Identifying and gaining access to hidden populations. In: Lambert, E.Y., ed. *The Collection and Interpretation of Data from Hidden Populations*. National Institute on Drug Abuse Research Monograph 98. DHHS Pub. No. (ADM)90-1678. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1990. pp. 4-11.
- Wissow, L.S.; Warshow, M.; Box, J.; and Baker, D. Case management and quality assurance to improve care of inner-city children with asthma. *Am J Disabled Child* 142(July):748-752, 1988.
- Wool, M.S.; Gaudagnoli, E.; Thomas, M.; and Mor, V. Negotiating concrete needs: Short-term training for high-risk cancer patients. *Health Soc Work* August:184-195, 1989.

ACKNOWLEDGMENT

The research reported here was supported by National Institute on Drug Abuse grant DA-06994-02.

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Case Management To Enhance AIDS Risk Reduction for Injection Drug Users and Crack Cocaine Users: Practical and Philosophical Considerations

Russel S. Falck, Harvey A. Siegal, and Robert G. Carlson

OVERVIEW

Seventy years ago when Mary Richmond (1922), a pioneer in the field of social work, said that social casework consisted of those processes designed to affect adjustments between an individual and the social environment, she could well have been describing case management. Thirty-five years ago Helen Perlman's (1957) problemsolving model of social casework consisted, in part, of letting people identify their problems and then helping them to mobilize "inner and outer forces" to deal with the problems (Skidmore and Thackeray 1982, p. 69). Case management as a conceptually distinct modality evolved out of social casework in the early 1970s when people who had been released from State mental hospitals returned to their communities and struggled to function successfully. Case management provided a mechanism through which recently released patients, with the assistance of case managers, could navigate the often fragmented social service system to access the resources that would enable them to live and function adequately in their communities (Stein and Test 1980; Test 1981).

Several models of case management have been developed since this initial effort. One type is the "mixed model" in which the case manager serves in a clinical capacity as the client's primary therapist and also as a service broker; another model casts the case manager almost exclusively as a broker of services (Rapp and Chamberlain 1985). In general, these models have functioned by *engaging* the client in the case management process, *assessing* the needs of the client, *planning* how to meet the identified needs, *accessing* the resources to meet the client's needs, *coordinating* the delivery of services; *monitoring* the client's progress in meeting his or her needs, engaging in

advocacy on behalf of the client as appropriate, and eventually *disengaging* the process (Sullivan 1981; Ballew and Mink 1986). These processes are most often expected to take place over an extended period in the classic case management model.

Since its initial application with chronically mentally ill individuals, case management, in one form or another, has been applied to a variety of different populations, including people being treated for alcohol and/or other drug problems, people with developmental disabilities, elderly people, victims of child abuse, homeless people, and people with acquired immunodeficiency syndrome (AIDS) (Willenbring et al. 1991; Sensel et al. 1988). To this list may now be added not-in-treatment injection drug users (IDUs) and crack cocaine users who are at high risk for contracting human immunodeficiency virus (HIV) disease.

The Dayton-Columbus AIDS Prevention Research Project employs a service broker case management model and nests it in an AIDS educational program to increase the adoption of HIV risk-reduction practices among IDUs and crack cocaine users. The objective of case management in the Dayton-Columbus project is to identify clients' needs, come to a mutually agreed-on and realistic prioritization of those needs, and then link clients with those community resources capable of helping to meet those needs.

The impressions and experiences of people working in AIDS prevention research suggest that effective responses by individuals to the AIDS threat may be tempered by other issues having more immediacy and relevance. These issues are diverse in nature and run the gamut from concern about immediate needs, such as where the next meal is coming from and where to find shelter for the night or clothes for the children, to the realization that they are living in a neighborhood that is saturated with violence and that they could well be the next victims (Mays and Cochran 1988; Weissman 1991; Carlson and Siegal 1991). The case management component in the Dayton-Columbus intervention is designed to address these issues, thereby allowing clients to attend to and hopefully internalize the AIDS risk-reduction messages.

THE DAYTON-COLUMBUS MODEL

IDUs and crack users who enroll as subjects at the Dayton and Columbus, OH, sites of the National Institute on Drug Abuse (NIDA)-funded Cooperative Agreement Initiative are randomly assigned to one of three intervention tracks. The tracks will be evaluated to determine which is more efficacious in reducing the risk of HIV acquisition and transmission. Each subject participates in a standard pretest counseling and education session that lasts about 20 minutes.

On the second visit, subjects are randomized into one of the tracks. Two tracks, one lasting about 30 minutes (the monitoring track) and the other (the standard track) lasting 1 hour, consist of the didactic presentation of basic information about AIDS as well as demonstrations and rehearsals of needle cleaning and condom use. The third track, the enhanced intervention, consists of four AIDS educational sessions coupled with six case management sessions for a total of seven client contacts (figure 1).

The AIDS education program that serves as a backdrop for the case management component is based on a modified version of the health belief model developed by Rosenstock (1974) at the U.S. Public Health Service in the 1950s. The original model postulates that a person's health behavior, in relation to a health threat, is dependent on four variables: the person's *perceived susceptibility* to the health threat, the *perceived seriousness* of the threat, the *perceived benefits* of specific options to address the health threat relative to the availability and effectiveness of those options, and the *perceived barriers* to adopting actions to reduce the health threat (Rosenstock 1974). To this theoretical model was added the variable of *self-efficacy* as conceptualized by Bandura (1977) in his social learning theory.

This theoretical framework has been translated into four educational sessions, each lasting between 1 and 2 hours. (For more details on this model, see Falck and Siegal, in press.) Topics include "An Introduction to the Relationship Between Drug Use and HIV Disease," "AIDS Facts," "Drug Addiction," and "Safer Sex and Relationships." The educational objectives are for attendees to recognize (1) those behaviors that make them susceptible to contracting HIV disease, (2) the severity of AIDS, (3) the benefits and response efficacy of specific HIV risk-reduction behaviors, (4) the barriers that block the adoption of risk-reduction behaviors, and (5) their capability (self-efficacy) to use risk-reduction methods. A preliminary analysis of this approach has suggested that those IDUs who complete the National AIDS Demonstration Research (NADR) Project Dayton-Columbus enhanced intervention are more likely to adopt needle-use risk-reduction behaviors than those people who receive less intense interventions (Siegal et al. 1991).

The general structure of the case management protocol now being pilot-tested incorporates six components delineated by Ballew and Mink (1986) in a model originally employed in a child abuse and neglect project: engagement; needs assessment; planning; accessing resources; monitoring, coordinating, and advocacy; and disengagement. Two characteristics make the Dayton-Columbus case management model unique. First, the intervention is a blend of two fairly different approaches to modifying human behavior: a

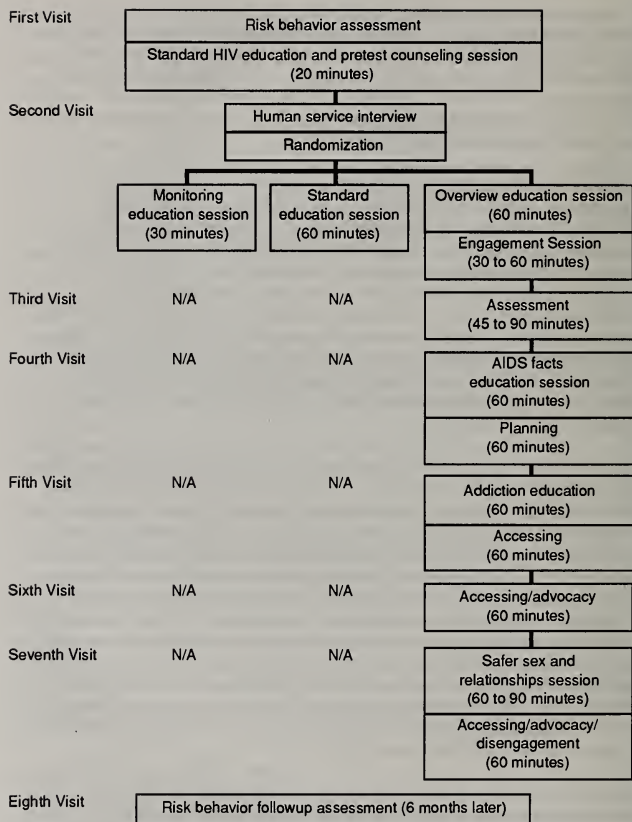


FIGURE 1. *Dayton-Columbus client flowchart*

cognitive, behaviorally oriented educational program coupled with a service-broker model of case management. The result is a "new" mixed model, one that combines an educational—rather than a clinical—orientation with service brokerage. Also, the mixing of the approaches may have an additive effect—an effect greater than either approach alone would have—on changing behavior. For instance, the educational sessions have the potential of increasing clients' receptivity to the case management process because some of the sessions employ fear arousal techniques to address the severity variable in the health belief model. The case management process can help extinguish that fear by helping clients get involved with services that can get them out of the lifestyle that puts them at risk. Once engaged in the case management process, clients may also be more attentive to the educational component because the sessions will reinforce (and justify) their involvement in case management. In addition, the educational model and case management process described herein attempt to develop and enhance (empower) the clients' skills in negotiating complex social situations. The resultant model is therefore a broad-based, eclectic one.

Second, the case management process has been purposely compressed into a period generally not to exceed 2 months in duration. This time limitation accomplishes two objectives. One, it sets a fast-paced tone for the process. The client knows he or she will not be involved in the process for a long time—the end is in sight, even at the beginning—an important point for a population that is generally not oriented to long-term goals. Also, in a more practical vein, the time constraint limits the number of individuals on the case manager's caseload to a manageable number of 20 to 25.

IMPLEMENTING THE MODEL

Outreach workers recruit eligible IDUs and crack users to participate in the research project. The potential participants present at the site office and learn more about the project. If they are interested in participating, an informed consent document is executed. Participants are then interviewed using the NIDA-developed Risk Behavior Assessment (RBA) questionnaire to gather extensive information on drug use and sexual and health practices. Afterwards, on a one-to-one basis, the participants receive a brief, nationally standardized HIV education and pretest counseling session.

Participants return for a second visit 7 to 10 days later, at which time they are randomized into the monitoring track (which serves as a control group), the standard track, or the enhanced track. Before receiving their test results, if they chose to be tested, all participants are interviewed on a one-to-one basis to gather baseline information on their past and present use of area human service resources as well as their perceptions of their current needs for services.

Clients randomized into the enhanced track receive their HIV antibody test results from the staff person who will serve as their case manager. Thus, the *engagement* process is initiated. After divulging the HIV results in a posttest counseling session, the case manager functions as an educator and conducts the first educational session, an hour-long overview of the relationship between drug use and HIV disease. Following the session, the case manager and the outreach worker explain the case management process and its benefits to the client. If the client agrees to participate, then the engagement phase has been completed, and an appointment is scheduled for the next visit 1 week later.

The third visit occurs at the site. The case manager conducts a semistructured interview to gather information on the client's general life situation as well as specific information on perceived problems, needs, and strengths. This is the *assessment* stage.

The fourth visit occurs at the site about 1 week later and begins with the case manager conducting an educational session focusing on facts about AIDS. The session contains a slide presentation depicting various pathophysiological manifestations of HIV disease. This material, which is fear arousing in nature, is presented because it poignantly conveys the severity of the disease—a necessary ingredient of the health belief model. Although the application of fear-arousal techniques in health education programing is the subject of some debate, its use in the context described here is consistent with what is known about the appropriate use of such methods (Job 1988). Following the educational session, the case manager engages the client in the *planning* stage of the case management process. It begins with the case manager asking the client to list what the client feels are his or her major unmet needs. The case manager follows with his or her perceptions of the client's needs. This interchange results in dialog that culminates with a mutually agreed-on priority list of needs and goals. Next, a plan is developed that details, in step-by-step fashion, who is to do what when to meet the needs necessary to attain the goal(s).

The fifth visit occurs about 1 week later and begins with the case manager conducting the educational session on addiction. After the session, the case manager works with the client to begin implementing the plan and *accessing resources*. The content of this session varies according to a client's needs and strengths, but the general philosophy is to have the client contact a targeted agency. The case manager serves as a personal helper. Behavioral rehearsal techniques are employed so that the client can learn how to interact effectively with service agency personnel.

The sixth visit occurs 1 to 10 days later when the case manager and the outreach worker visit the client in the field. The visit has several purposes. First, the visit allows the case manager to continue *accessing* resources and, if necessary, to serve in an *advocacy* role. If more than one service provider is involved, then the case manager may, with the client's approval, engage in a *coordinating* role if the situation warrants. Second, because the visit occurs in the field, it allows the case manager to interact with the client in a natural setting, thereby providing the opportunity to learn more about the client's situation and the obstacles that may impede progress. Finally, visiting the client in the field can have a positive symbolic impact. The visit demonstrates that the case manager cares enough about the client to leave the confines of the office to visit and work with the client on his or her own turf.

The seventh visit occurs a week later and begins with the case manager conducting the final educational session that addresses safer sex and relationships. This session is followed by what is scheduled to be the last case management session in which *accessing*, *advocacy*, and *coordinating* occur if necessary. This session is followed by client debriefing and then *disengagement*.

MEASURING PROGRAM IMPACT

A variety of different measures, both formal and informal, are employed to measure the process and outcome of the case management intervention that is currently being pilot-tested.

Qualitative assessments of the case management process are achieved through interviews with clients that are conducted by the project's ethnographer, feedback solicited from clients by the outreach workers, input from focus groups, and journal entries by the case manager.

Two semiquantitative measures are used to assess the case management process. First, a social service inventory, an instrument that captures self-reported information on past and present use of local area human service agencies as well as present needs, is administered at baseline and again 6 months later. These data are compared with inventory data collected from participants in the monitoring and standard tracks. This comparison provides a reasonable indication of the effectiveness of the case management process in successfully linking clients with needed services.

Another semiquantitative measure of the effectiveness of the case management process involves assessing the attainment of the service acquisition objectives specified in the clients' planning sessions. At the disengagement session,

clients are asked to sign releases of information that the case managers may use to query those agencies the clients claim to have become linked with; if the linkage (contact has been made and client is eligible for the service) is verified, realization of the service acquisition objectives is determined to have occurred, and the process is judged effective relative to the number of service linkages realized. Determination of the success of the case management process for any given client depends on whether the goals specified during the planning process are attained.

Ultimately, the effectiveness of the enhanced intervention (AIDS education coupled with case management) is determined by comparing it with the monitoring and standard tracks at baseline and postintervention on a variety of different variables, including self-reported drug use (corroborated by urinalysis) and sexual practices, to determine which intervention brings about significant reductions in HIV risk behaviors. This determination is accomplished by administering the RBA and the Risk Behavior Follow-up Assessment questionnaires in a pre/post fashion. (For an explanation of this process, see Siegal et al. 1991.)

TRAINING AND BACKGROUND OF CASE MANAGERS

Minimum requirements for case managers in the Dayton-Columbus project are a bachelor's degree in a social science and at least 2 years of relevant human service agency experience. Once on staff, a case manager must complete the Ohio Department of Health's HIV counselor education program, because the case manager also serves as an HIV counselor. In addition, the case manager also spends time learning how to conduct the project's educational sessions. The learning process is accomplished largely by self-instruction in the project's written protocols for the educational sessions, coupled with observations of sessions conducted by experienced educators. The case manager is asked to conduct the sessions to the satisfaction of the site director before the sessions are conducted with clients.

Training in case management begins with the reading of "Case Management in the Human Services" by Ballew and Mink (1986), because much of the material in the text serves as the practical basis for the model employed in the project. Familiarization with the text is followed by personal visits to those agencies to which a significant number of referrals will be made. These agencies include, but are not limited to, area drug treatment programs, homeless shelters, public housing authorities, and major food pantries. The case manager attempts to identify a liaison with whom future communication regarding access of service might occur, the eligibility requirements of the agency, and the agency representative's response to the explanation of the project.

This information is recorded and becomes part of the case manager's resource file. In addition to the visits, the case manager also studies the area social service directories (compendiums of area services compiled by local United Way-type organizations) to become familiar with the array of available services.

As warranted, the case manager attends workshops and continuing education programs given by authorities in the field of case management.

CONFIDENTIALITY

Confidentiality is a major concern in any professional human service endeavor, but it need not inhibit the case management process. Contact with other agencies to request service on behalf of a specific individual is made only with the written consent of the individual needing the service. Similarly, contact with any agency to ascertain whether a specific individual received service from that agency is never made without the written consent of that individual. Requests for information about a client's participation in this project are honored only with a signed release of information that is consistent with Federal law (Confidentiality final rule 1987).

PRACTICAL AND PHILOSOPHICAL CONSIDERATIONS

Although the compression of the case management process into a 2-month timeframe may seem like a corruption of the process to some case management practitioners, the Dayton-Columbus approach is designed to be flexible. This flexibility helps the process maintain its philosophical integrity. For instance, if a client conveys to the case manager that he or she has emergency needs for services, such as drug treatment, housing, food, or medical care, the process as previously described is bypassed and the case manager strives to meet the client-identified needs in a timely fashion. Furthermore, if the process is not executed in the limited timeframe specified, it may be extended up to a month longer until it is completed. Finally, the client is not bound to limit contact with the case manager to scheduled appointments and is free to make unscheduled contacts throughout the duration of the process—generally about 2 months. What at first appears to be an unduly narrow application is really a fairly well-rounded, somewhat traditional case management model.

Although the Dayton-Columbus model was described earlier as a "new" mixed model with an eclectic orientation, it is nonetheless oriented toward the identification and solution of problems. It may, therefore, be labeled by some as a "remedial" rather than a "strengths" model of case management. However,

the assessment of a client's strengths and the application of these strengths to the planning and accessing stages of the model suggest that the "remedial" label is not wholly descriptive of the process. A question to be answered is whether the strengths model as described by Rapp and Chamberlain (1985) could succeed with a not-in-treatment, street, drug-using population. The amount of time and the nature of the contact required may preclude the strengths model's application in this venue, because the model is predicated on the development of a companionship-type of relationship. The short amount of time the Dayton-Columbus case managers have with the clients and the fact that case managers do not "hang out" on the street mean the development of such a companionship-type relationship is unlikely and, therefore, so is application of the strengths model. Furthermore, an ethnographic study suggests that IDUs and crack users move from crisis to crisis (Carlson and Siegal 1991). Given this fact, it is incumbent that the Dayton-Columbus model link people with services quickly. Although the strengths model can succeed at this task if given time, time is a scarce commodity when working with active users of street drugs.

Based on previous experience in the Dayton-Columbus NADR project and knowledge of area drug-using networks, it is expected that "average" project clients will be mostly African-American (75 to 80 percent) and males (60 percent) in their early thirties to midthirties with 10 to 15 years of serious drug involvement. A very large number (65 to 70 percent) will have recent experience with crack and injectable drugs. Of concern is whether potential clients, other than the most highly self-motivated, will even give the process a chance because it will require an average of 2 to 3-1/2 hours per visit (including travel time). No financial or commodity incentives are being offered for participation. Therefore, the project must compete with the "I need to take care of business" ethos that is so much a part of the street drug culture.

Assessing the impact of the model is complicated by the clients' preprogram knowledge of the human service network. At least one AIDS prevention project working with IDUs has found clients to be "system wise" (G. Rodriguez, personal communication, July 1991). Indeed, preliminary data gathered from 59 Dayton-Columbus project participants revealed significant levels of past involvement with the communities' human service networks. For instance, 83 percent had previously received food stamps, 55 percent had received public assistance, 34 percent had stayed in a homeless shelter, and 42 percent had been involved in a drug treatment program at least once in their lives. These data obviously suggest that project participants are familiar with aspects of the community's human service network. If this is the case, the question arises as to whether a service broker model of case management is needed. The answer is, "probably." Past involvement with the system does not imply successful

interaction. Furthermore, the same dataset shows that 20 percent of the participants are currently in need of food, 22 percent now want to get involved in a drug treatment self-help group, and 12 percent are in need of medical care.

Serious consideration must also be given as to whether local human service agencies are capable of serving more people than they do currently. For instance, for the past 2 years, long waiting lists for drug treatment have existed in both Dayton and Columbus. This fact raises the question of whether it is appropriate to engage people in a process that engenders a need for a service that the system may not be able to deliver in a timely fashion. The answer is, "perhaps." Furthermore, advocacy on behalf of single individuals often succeeds. If advocacy can generate enough pressure on the system to make it more responsive to the needs of people, the actions may be justifiable at the local and even the national level. If advocacy fails, then the process is quite dubious. This issue deserves careful monitoring and consideration.

Consideration must also be given to the disincentives for service. For example, some clients may thoughtfully decline employment opportunities because such employment could result in the loss not only of their public assistance support, if they are recipients, but also of medical support, something that is often not attached to the employment "benefit" packages of underclass people. Clients may also question why they should go back to school or engage in job training when the Nation is in the economic doldrums and experiencing a high unemployment rate—a rate that does not approach the unemployment rate people in impoverished inner-city areas have experienced for most of the past two decades.

Not surprisingly, case management has its critics, and they also need to be considered. Although case management has been offered as a panacea for what ails the community mental health movement, Mechanic (1986) and Mechanic and Aiken (1987) have noted that it has had limited success. Mechanic (1986) also has argued that more faith has been placed in case management than is warranted. In assessing case management, Mechanic and Aiken (1987) said:

It is foolish to place so much hope on an intervention that is as weak as this one and has so little supporting structure. If case management is to be effective, it must be embedded in an organizational strategy that clearly defines who is responsible for care, that has in place the necessary service elements to provide the full spectrum of needed services, and that can control the range of resources so that balanced decisions can be made.

Mechanic and Aiken (1987) also point out that case managers are often young, inexperienced, undertrained, and underpaid. Although these criticisms apply specifically to case management within the community mental health movement, those outside the mental health arena need to take note. Expectations may be unrealistic and strategies poorly defined. However, in partial answer to criticism, it is also unrealistic to expect social casework and case management to correct the poor decisions of the past or to correct long-lived social injustices.

Finally, one issue that will surely not be resolved soon, but that merits mention, is the role that programs such as the one described here may have in causing or inhibiting needed social reform. For years, social programs have permeated the lives of people in the underclass, yet problems have continued to grow, particularly among the still-disenfranchised minorities whose neighborhoods are now plagued by spiraling murder rates, high levels of unemployment, and general despair. It is useful to consider the ultimate impact of some of the efforts detailed in this volume. Although professionals involved in the provision of these programs believe they are humanistic, altruistic agents working to relieve pain and suffering and helping people to realize their potential, it must be considered that the opposite may be the case: that they are agents of social control facilitating preservation of the status quo. Of course, those people who have worked in the social work and human services fields realize that sociopolitical conundrums such as this are not new (Toren 1972).

SUMMARY

The AIDS intervention model described herein represents a new "mixed" model of case management, one that combines AIDS risk-reduction education with a modified version of the traditional broker of services model. The case management component of the model is designed to heed and address those immediate needs that may distract a person from attending to the AIDS risk-reduction messages. The educational component of the model can help a person develop interest in the case management services. The result is a model that, theoretically, can have a greater impact than either component alone would have.

The advantages of the model are its flexibility, its ability to quickly assess and address clients' concerns, and its short duration that enhances the likelihood that drug users will complete the process.

REFERENCES

- Ballew, J.R., and Mink, G. *Case Management in the Human Services*. Springfield, IL: Charles C Thomas, 1986.
- Bandura, A. Self-efficacy: Toward a unifying theory of behavior change. *Psychol Rev* 84(2):191-215, 1977.
- Carlson, R.G., and Siegal, H.A. The crack life: An ethnographic overview of crack use and sexual behaviors among African-Americans in a Midwest metropolitan city. *J Psychoactive Drugs* 23(1):11-20, 1991.
- Confidentiality final rule: 42 CFR, Part 2. *Federal Register* 52(110):21796-21814, June 9, 1987.
- Falck, R.S., and Siegal, H.A. *HIV Risk Reduction for Injection Drug Users and Their Sexual Partners: Intervention Manual*. Rockville, MD: National Institute on Drug Abuse, Community Research Branch, in press.
- Job, R.F.S. Effective and ineffective use of fear in health promotion campaigns. *Am J Public Health* 78(2):163-167, 1988.
- Mays, V.M., and Cochran, S.D. Issues on the perception of AIDS risk and risk reduction activities by black and Hispanic/Latina women. *Am Psychol* 43(11):949-957, 1988.
- Mechanic, D. The challenge of chronic mental illness: A retrospective and prospective view. *Hosp Community Psychiatry* 7(9):891-896, 1986.
- Mechanic, D., and Aiken, L.H. Improving the case of patients with chronic mental illness. *N Engl J Med* 317(26):1634-1638, 1987.
- Perlman, H.H. *Social Casework: A Problem-Solving Process*. Chicago: University of Chicago Press, 1957.
- Rapp, C., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30(5):417-422, 1985.
- Richmond, M. *What Is Social Casework?* New York: Russell Sage Foundation, 1922. pp. 98-99.
- Rosenstock, I.M. Historical origins of the health belief model. *Health Educ Q* 2(4):328-335, 1974.
- Sensel, G.; Paradise, F.; and Stroup, S. Case management practices in an AIDS service organization. *Soc Casework: J Contemp Soc Work* 69(6):388-392, 1988.
- Siegal, H.; Falck, R.; Carlson, R.; and Li, L. Changes in needle risk behavior: A preliminary comparative analysis of the Dayton-Columbus NADR program's standard and enhanced intervention tracks at six months. In: *Research In Progress*. Rockville, MD: National Institute on Drug Abuse, Community Research Branch, October 1991.
- Skidmore, R.A., and Thackeray, M.G. *Introduction to Social Work*. 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1982.
- Stein, L.I., and Test, M.A. Alternatives to mental hospital treatment. *Arch Gen Psychiatry* 37(4):392-397, 1980.

- Sullivan, J.P. Case management. In: Talbott, J., ed. *Chronically Mentally Ill*. New York: Human Service Press, 1981.
- Test, M.A. Effective community treatment of the chronically-mentally ill. *J Soc Issues* 37:71-86, 1981.
- Toren, N. *Social Work: The Case of a Semi-Profession*. Beverly Hills: Sage Publications, 1972. pp. 93-98.
- Weissman, G. AIDS prevention for women at risk: Experiences from a national demonstration research program. *J Prim Prev* 12(1):49-63, 1991.
- Willenbring, M.L.; Ridgely, M.S.; Stenchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. DHHS Pub. No. (ADM)91-1766. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1991.

ACKNOWLEDGMENTS

This project is being supported by NIDA grant DA-07305 and the Ohio Department of Alcohol and Drug Addiction Services.

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Case Management Services for HIV-Seropositive IDUs

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INTRODUCTION

The annual acquired immunodeficiency syndrome (AIDS) incidence rate for the Miami Metropolitan Statistical Area (MSA) is high, and the recent trend is relentlessly upward—from 25.2 (per 100,000) (January 1988) to 38.1 (November 1988) to 49.6 (December 1989) and 81.4 (June 1991)—and is consistent with earlier predictions of increases made from the best epidemiological evidence available (Centers for Disease Control 1989, 1990, 1991). As might be expected, the Miami MSA's recent total of 4,578 reported AIDS cases constitutes a majority of the cumulative total in Florida. Moreover, Miami ranks highly in comparison to other U.S. metropolitan areas in all exposure categories (Shultz et al. 1991). Among the populations at highest risk nationally for human immunodeficiency virus (HIV) infection are intravenous drug-using men and women. Of the cases reported among adults in Miami, 26.6 percent occurred in injecting drug users (IDUs). Of the IDUs tested, 23 percent of the males were HIV positive; this is a high rate, but only one-half the 46 percent HIV-positive rate found in female IDUs (Dade County Public Health Unit 1991).

Factors compounding the risk of HIV for IDUs are their tendency to be isolated from mainstream society and to be unaware of and unable to easily access health and social services. Agency barriers (e.g., philosophies, styles, personalities, funding restrictions) are reported to create service gaps, some of which may be specific or unique to IDUs. The consequences of these psychological, lifestyle, knowledge, and agency barriers are decidedly not trivial. It has been estimated that about half of AIDS-related deaths in IDUs are not identified as such and thus are not so reported (Curran 1989). Because of the numerous health and social consequences resulting from HIV infection, concurrent attention is required to the primary prevention of viral transmission, the provision of health and social services, and research about these issues. The integration of these activities could translate into better and more informed

decisions about policies related to health service delivery in this epidemic (Fineberg 1989).

COMPREHENSIVE DRUG RESEARCH CENTER AND SOUTH FLORIDA AIDS NETWORK

A 1-year demonstration program was conducted in Miami, FL, that involved revising the established case management system of the South Florida AIDS Network (SFAN) to better serve HIV-positive IDUs, to provide case management of a sample from this population by SFAN, and to perform a process or performance evaluation of the demonstration by the University of Miami (UM) Comprehensive Drug Research Center (CDRC). This collaborative effort was designed to integrate CDRC-conducted research and prevention education with SFAN-provided case management services for IDUs.

SFAN is a program within the Public Health Trust of Dade County, which operates major primary and tertiary health care programs, including—under contracts with UM—the University of Miami/Jackson Memorial Medical Center, the major provider of medical services for indigent AIDS patients and a national leader in AIDS research. SFAN was established in 1986 as one of the first national AIDS care and treatment demonstration projects. Enrollees in SFAN receive case management services for a range of institution- and community-based HIV-related services.

CDRC is a coordinating "matrix" center, embracing multidisciplinary basic, clinical, and other applied research encompassing virtually all facets of substance abuse etiology, epidemiology, and consequences. CDRC has a 20-year history and foundation at UM. Approximately one-third of more than 30 substance abuse research projects currently being conducted at UM by CDRC faculty members or collaborating faculty involve IDU-related HIV. The CDRC subcontract with SFAN for design, training, and evaluation services extended from August 1, 1990, through September 30, 1991; an additional 8-month limited-activity period was appended to allow for followup. The collaboration for this project, which involved a research-oriented academic medical institution and a service-oriented primary and tertiary care public hospital, required substantial consideration of different roles and responsibilities in joint planning. Each organization has different ideologies, organizational sanctions, and managerial structures. The attention to detail and accuracy in data processes, the specificity, and the measured pace of research undoubtedly seemed foreign and appeared constraining to the quickly and urgently changing demands of patient care. Attention had to be given to the establishment of mutually defined "common ground" to minimize—and, when

anticipated, to prevent—unnecessary and potentially counterproductive tension in the program's implementation.

ORGANIZATIONAL STRUCTURE

Leadership personnel from both CDRC and SFAN met together initially to identify organizational domains. CDRC had responsibility for participant recruitment; assignment of control and case management statuses; control group referrals; all data collection that was unique to the evaluation; and all data entry, analysis, and interpretation relevant to the evaluation of the demonstration. SFAN had responsibility for case management services and data collection related to services recommended, received, and billed to SFAN. Frequent CDRC-SFAN meetings were held to modify the existing SFAN case management program, adding outreach activities and health education regarding sex and drug use risk-reduction activities, to ensure its fit for the unique needs of IDUs. The meetings also were used to reach consensual decisions regarding data required for evaluation purposes, their definitions, mechanisms for maintenance and sharing, and the delineation of staff functions and accountability. Program orientation meetings were held with staff members of both organizations; in-service training programs were held with the SFAN case managers to familiarize them with the relationship between drug addiction and HIV transmission and to demonstrate risk-reduction counseling and behavioral skills, such as needle cleaning, for this population.

Modifications of the SFAN Case Management Program for HIV-Seropositive IDUs

The routine SFAN-defined case management program includes a sequence of activities: an introduction to SFAN, program enrollment, patient and participant needs assessment, service care plan development, plan coordination and implementation, plan monitoring, and followup. Case managers at SFAN are bachelor-level health educators, with no social work training and little experience working with drug users. Their routine role is to provide health education and referrals to services and to maintain contact with SFAN clients.

The modifications in the case managers' program to accommodate the unique needs of HIV-positive IDUs were as follows:

- Enrollment in SFAN, with an orientation to the continuum of HIV-related services of SFAN's provider agencies
- Assignment of individual cases to specified managers

- Needs identification through screening by the case manager to determine medical status, economic status, social supports and family status, and psychological functioning
- Regular, ongoing HIV prevention education about knowledge and skills required for behavior change to reduce HIV transmission, including the role of addiction treatment in HIV transmission prevention, the adoption of needle-cleaning practices, and the use of condoms during sexual activity
- The identification and utilization of health and mental health care, social and economic services, and addiction treatment services
- The use of regular and frequent (every 2 weeks) monitoring of patients' use of the above-identified services to determine access, compliance with treatment, and the reassessment of any needs or problems for treatment or intervention
- Low staff-to-patient case ratios (1:30 to 1:35)
- An integrated research and evaluation component to assist with needs assessment and determination of outcomes for HIV-seropositive IDUs in the areas of service utilization, cost, HIV risk-behavior change, and further program development

Barriers in Working With IDUs

Barriers often encountered when working with IDUs include homelessness, denial of drug-related adverse consequences, continued drug use, and lack of available treatment programs. Many of the IDUs in the demonstration program were homeless. Living "on the streets" is undesirable from the perspectives of the homeless individual and the larger society in that it creates or exacerbates health and social problems. Less profound, but salient from the perspective of this demonstration project, is the difficulty homelessness presents for followup efforts and attempts to make "home" visits. Program participants who were asymptomatic at enrollment found it difficult to focus on risk-reduction strategies. Many of them continued risky sex and drug-using behaviors. Drug abuse is characterized by denial of dependency, and drug users were no less likely than those infected through other means to deny their HIV infection. Even when IDUs chose to seek enrollment in a drug treatment program, there were times when there was no program available for demonstration program participants because they could not pay for the service.

METHODS

Research Design

HIV-seropositive IDUs who were involved in other studies at CDRC constituted the participant pool for this demonstration project. All study participants had received HIV testing, counseling, and prevention information. After signing an informed consent and being assured of confidentiality, participants were randomly assigned to either the case management or control group. Random assignment was done using a table of random numbers; even numbers in the table were assigned to the case management group, and odd numbers were assigned to the control group. Monetary inducement was neither offered nor given to members of either group to accept their assignment or to participate in the evaluation aspects of the demonstration project. Participants in the case management group received the services outlined above, with active, regular contact with an assigned case manager. Participants in the control group received the regular social work services of the CDRC. These services consisted primarily of social, medical, and health service referrals on request by study participants. See figure 1 for research design and activity flow chart.

Those randomly assigned to the case management condition, being voluntary participants in the demonstration program, had—and sometimes exercised—the option to refuse to participate in the program. Of those who were assigned but opted not to enroll in SFAN, many were already receiving services from primary health care clinics, Jackson Memorial Hospital, or the Department of Veterans Affairs.¹ An additional informed consent was required at SFAN for those enrolled in the demonstration program because of access to medical records.

Randomization procedures were compromised somewhat by SFAN's continuing need to maintain a full caseload of 30 to 35 cases for each of three case managers assigned exclusively to this demonstration program. (This compromise to randomization procedures was partly in response to complaints from case managers in SFAN's regular program whose caseloads were considerably higher.) Consequently, after CDRC had assigned about 20 HIV-positive subjects to the case management and control groups, randomization was stopped to fill the caseloads. Once the caseloads reached 30 per case manager, randomization procedures were again instituted. This process ultimately resulted in fewer participants being enrolled in the control group (40) than the case management group (100); the project period expired before the control group size could be equalized with the case management group.

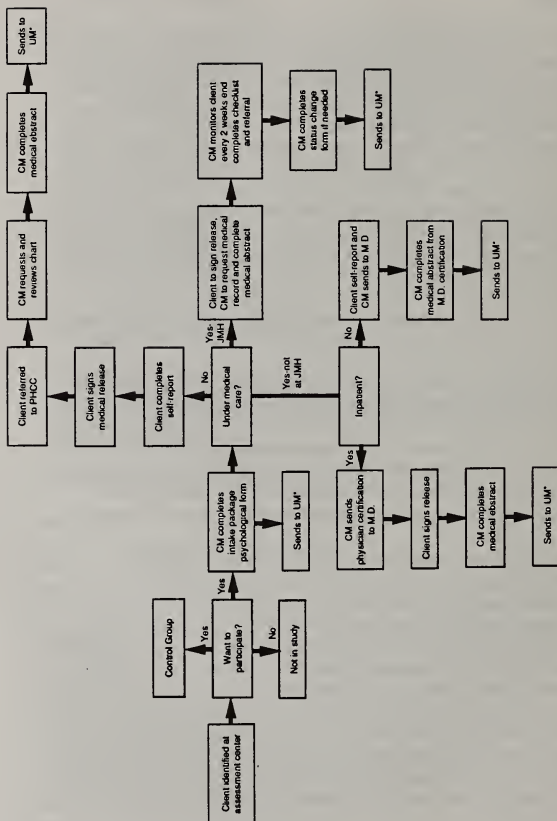


FIGURE 1. Research design and client flow

KEY: CM=case manager; JMH=Jackson Memorial Hospital; PHCC=primary health care centers

"Send to UM" refers to sending forms and data to evaluator.

Data Collection and Data Management

As noted earlier, the collaboration for this project required considerable accommodation and patience between a research-oriented academic medical institution and a service-oriented primary and tertiary care public hospital program. This was particularly true with regard to perspectives on data collection and data management. The priorities of the CDRC staff tended toward attention to detail and accuracy in data processes, whereas those of the SFAN staff were attuned to episodes of patient-staff interaction, affective behavior and emotional states, and the mutable and sometimes idiosyncratic demands of patient care.

Despite these differences in emphasis, extensive extant SFAN service and CDRC research data were abstracted, and additional data were captured expressly for the demonstration program evaluation. A wide range of data collected on each participant provided multiple dimensions for the conduct of process and outcome evaluation.

Baseline data were collected via two interview instruments, the AIDS Initial Assessment from the National Institute on Drug Abuse's (NIDA) National AIDS Demonstration Research project and the questionnaire from the Centers for Disease Control's National Health Study, as these projects were the source of participants for this Health Resources and Services Administration (HRSA)/NIDA demonstration project. Each instrument captured drug-using and sexual risk behaviors for HIV as well as demographic information. Comparable variables were selected from these baseline data sets and merged into a single data file. In addition, data files from participants' admissions, needs assessments, services received, medical and health status, and other status change information were maintained throughout the program as 15 separate files, then merged into a single master data set for analysis purposes.

The management of the data collected by separate organizations required substantial planning and ongoing coordination to ensure compatibility of systems, timely data entry, avoidance of redundant items, ability to merge files, and quality control of the data. In CDRC, unique identifier codes were assigned to each subject according to study type; SFAN maintained two participant identifier codes that had to be reconciled with the CDRC codes. Data from SFAN were edited onsite by a supervisor and edited for completeness at the CDRC site. All data were maintained in locked files.

Research Strategies for Evaluating the Program

An adjusted random design procedure, described in the Research Design section, was employed to compare the case management model with a

control (non-case management) model. The control group utilized the services of a bachelor-level, experienced social worker on staff at CDRC who, on request and without a formalized needs assessment, during a brief intervention session, referred study participants to health and social services. The major evaluation question (i.e., Is case management superior to one-time referrals to services on demand as a methodology for ensuring that needed services are received by HIV-positive IDUs?) was operationalized as, Will the case-managed group receive higher numbers of services than the control group? In addition, quantitative data were collected for process evaluation, such as the amount of time spent with each participant, the number of contacts, referrals, attempts at making contacts with participants, and type of attempts (e.g., telephone, letter, outreach), and contact (e.g., routine followup, case manager or participant initiated).

RESULTS

Baseline Characteristics

Table 1 shows the demographic characteristics of the study population. There were no significant differences in characteristics of age, race, gender, education, major source of income, and employment between the control and case management groups. Similarly, there were few differences in drug and sex risks for HIV at baseline between the two groups as shown in table 1A. The case management group was more likely to have ever used cocaine (powder) ($p=.03$) and to have received money or drugs for sex ($p=.05$) than the control group. Additional baseline characteristics include medical status and AIDS symptoms (table 2). HIV status did not differ significantly between the two groups, nor did performance status. Most study participants were asymptomatic and able to perform most daily activities without help (66.0 percent of the case management group, 67.5 percent of the control group). Typical AIDS symptoms also did not differ significantly (data not shown). There was no significant difference between the case management group and the control group on the degree to which they believed they were at risk for HIV. Because these baseline characteristics were similar for both groups, the authors expected that any differences between the two groups at the conclusion of the intervention could be attributed to the effects of the intervention (i.e., the case management services).

Participant Needs Assessment

An assessment of subjects' service needs (table 3) shows essential differences between the case management and control groups. Financial assistance

TABLE 1. *Characteristics of the study group, percent**

Characteristics†	Case Management (n=100)	Control (n=40)
Age		
<25	10.0	7.5
26-30	27.0	17.5
31-35	27.0	27.5
36-40	23.0	35.0
41+	13.0	12.5
Race		
Black	87.0	85.0
Hispanic	7.0	2.5
White/Native American	6.0	12.5
Gender		
Male	61.0	67.5
Female	39.0	32.5
Education		
<High school graduate	58.6	48.7
High school graduate	24.2	25.6
>High school graduate	17.2	25.6
Major source of income		
Government sources	12.3	3.1
Other legal sources	43.2	68.8
Illegal sources	42.0	28.1
Other	2.5	0
Employment		
Regular	15.4	32.4
Occasional	22.0	21.6
Unemployed/retired	62.6	45.9

* Percentages may not add to 100 due to rounding.

† The differences for HIV status, performance status, and perception of HIV risk were not significant between the case management and control groups.

TABLE 1A. *Drug and sex risk activities, percent**

Risk Behaviors	Case Management	Control	p
<u>Drugs</u>			
Drugs ever used			
Alcohol	89.0	95.0	ns
Marijuana	70.0	62.5	ns
Crack	70.0	57.5	ns
Cocaine (powder)	56.0	35.0	.03
Cocaine (injected)	72.0	62.5	ns
Heroin	58.0	55.0	ns
Other (injected)	69.0	60.0	ns
Other (noninjected)	70.0	62.5	ns
Not currently enrolled in drug treatment program	99.0	92.5	.03
Cleaned needles			ns
Never	13.8	0.0	
Half the time or less	6.2	10.7	
More than half the time	7.7	10.7	
Always	72.3	78.6	
Shot drugs at shooting gallery			
Never	49.4	52.9	
About half the time or less	38.3	32.3	
More than half the time	7.4	5.9	
Always	4.9	8.8	
<u>Sex</u>			
Received money or drugs for sex	42.0	22.5	.05
Never used condoms	50.0	47.5	ns
No sexual risk behaviors (No IDU partners, use condoms always, no anal sex)	23.5	15.8	ns
Number of sexual partners			ns
None	16.9	8.3	
One	24.1	33.3	
More than one	59.0	58.3	

* Percentages may not add to 100 due to rounding.

ns=not significant

TABLE 2. *Medical status at baseline, percent**

Medical Status†	Case Management	Control
HIV status		
AIDS only	3.0	2.5
AIDS-related complex only	3.0	—
HIV positive only	94.0	97.5
Performance status		
Normal activity	66.0	67.5
No special care	18.6	17.5
Unable to work	6.2	5.0
Self-care	3.1	0.0
Some assistance needed	5.2	7.5
Hospital care needed	0.9	2.5
Perception of risk of HIV		
No chance	11.2	7.5
Some chance	62.2	75.0
High chance	20.4	10.0
Sure chance	5.1	5.0
Unsure of chance	1.0	2.5

* Percentages may not add to 100 due to rounding.

† The differences for HIV status, performances status, and perception of HIV risk were not significant between the case management and control groups.

(Supplemental Security Income [SSI] and Medicaid) and basic food needs are significantly greater for the case management group, whereas basic shelter needs are significantly greater for the control group. Because of the difficulty IDUs have in accessing services, it was important to determine whether there were others (e.g., family members, friends) who could provide assistance to the HIV-positive IDUs. For both groups, a parent was overwhelmingly the choice as caregiver.

The psychological assessment showed that for both the case management and control groups the prevalence of low mental health was high, but not significantly different. In the case management and control groups, the participants scored in the medium-to-high range (43.2 and 45.0 percent, respectively). The major implication of using a brief screen to detect psychiatric illness in a case management program for HIV-seropositive

TABLE 3. *Client needs assessment, percent*

Characteristics	Case Management	Control	p
Receiving financial assistance			
SSI	13.2	7.5	ns
Medicaid	15.6	0.0	.001
Needs food stamps	40.7	2.5	.001
Has no place to go	13.0	35.0	.000
Relationship of caregiver			ns
Parent	89.0	100.0	
Spouse	2.0	0	
Sexual partner	1.0	0	
Relative	4.0	0	
Friend	1.0	0	
Child	2.0	0	
Other	1.0	0	
Range of mental health			ns
Low mental health	56.8	55.0	
Medium mental health	35.8	42.5	
High mental health	7.4	2.5	

ns=not significant

IDUs is to enhance early referrals to necessary psychiatric, neuropsychiatric, and mental health services. A brief screen is especially important when case managers are nonprofessionals.

Services Provided

The SFAN case managers provided basic educational services such as AIDS 101 and HIV risk reduction.² They referred clients to additional services in other agencies, but followup data were recorded and available for analysis for only some of those referrals (table 4). The services of greatest need were financial assistance (23.3 percent) and outpatient medical services (22.8 percent). Transportation services (21.8 percent) were provided to assist clients in accessing services. Most clients (80 percent) came to the program only one time after admission; other clients came 2 (3 percent), 3 (1 percent), 6 (1 percent), 7 (1 percent), or 13 or more times (14 percent).

TABLE 4. *Services referred*

SFAN Education	N	Percent
CMG* referrals for services		
Outpatient	44	22.8
Inpatient	3	1.6
Medications	13	6.7
At-home medical	5	2.6
Financial assistance	45	23.3
Housing services	11	5.7
Meals	7	3.6
Drug abuse treatment	6	3.1
Mental health services	1	0.5
Transportation	42	21.8
Medical supplies	1	0.5
AIDS agency	2	1.0
Other social services	13	6.7
Total	193	99.9
Control group referrals for services		
Medical treatment	8	19.0
Financial assistance	5	11.9
Housing	9	21.4
Food	5	11.9
Drug abuse treatment	2	4.8
Counseling on drug abuse	3	7.1
Employment	4	9.5
SFAN (AIDS agency)	6	14.3
Total	42	99.9

*Case management group

Thirty-three research participants in the control group were referred to 42 services during the study period (table 4). The greatest needs of this group were medical treatment and basic needs of food and shelter. Subjects in the control group received fewer services, primarily because there were no active attempts to reach them by the social worker.

The SFAN health educators counseled clients on various aspects of AIDS sex and drug risk reduction, basic AIDS information, and nutrition. The average amount of time spent providing education about HIV transmission during the case management activities included 8.1 minutes on AIDS 101, 7.3 minutes on safer sex, 8.0 minutes on drug use reduction, and 5.6 minutes on universal precautions.

Status and Behavior Changes

Status changes that occurred during the study are listed in table 5. Status changes, including changes in caregivers or dependents, financial assistance, medical diagnosis, symptoms or care, and drug treatment, were noted by the case manager at each contact. Few changes were seen in caregivers or dependents, financial assistance, or drug treatment. The greatest change in the case management group was an increase in medical care, including visits to doctors and nurses, treatments, medications, and hospitalizations. This increase may indicate that the patients had greater access to services, may reflect an escalation in symptoms and more frequent instances of acute problems, or both. In fact, two clients in the case management group died during the study, and five changed their status from HIV positive to AIDS (data not shown). The increase in treatments primarily included beginning AZT and other medications (patients were unable to identify the type by name). Even though data are incomplete in the control group, there was one death and no changes from HIV status to symptomatic AIDS. It is interesting to note that the greatest changes in the control group were also in medical care, primarily visits to a doctor or nurse. The case management group members apparently received greater attention to health care as a result of the case management program. In addition, they also reported decreasing their drug and sex risk behaviors, which may also improve their health and survival time. Without the case management program, most would have been unaware of the availability of AZT and other medications.

Preliminary data on behavioral changes—comparing baseline assessments to 6 months postentry into the demonstration program—are also reported in table 5. Improvements in HIV-risk activities were noted for both case-managed and control groups in most aspects of sex-risk and drug-risk behaviors measured.

The number of sex partners, the injection and noninjection use of cocaine, and the use of alcohol and marijuana decreased; the use of condoms increased for both groups. The case-managed group also decreased their use of crack cocaine and increased their use of clean needles, whereas the control group decreased their use of clean needles. Adversely, the case management group

TABLE 5. *Status and behavioral changes**

Status Changes (Percent of Times Mentioned)

Changes in	Case Management	Control
Caregivers	12	1
Diagnosis	13	0
Treatment/medication	34	0
Visits to doctor/nurse	59	13
Hospitalization	17	1
Performance status	8	1
Risk behaviors	21	0

Behavioral Change—Mean Score†

	Case Management		Control	
	Baseline	6 Month	Baseline	6 Month
Sex behaviors				
Number of sex partners	12.3	3.8	15.3	4.3
Use of condoms	.5	.6	.5	.8
Drug-using behaviors				
Drug use				
Alcohol	.9	.7	1.0	.9
Marijuana	.7	.4	.6	.5
Crack	.7	.4	.6	.7
Cocaine (noninjecting)	.6	.2	.4	.2
Cocaine (injecting)	.7	.1	.6	.4
Heroin and cocaine	.6	.2	.5	.3
Use shooting gallery	.8	1.2	1.0	.8
Clean needles	3.3	3.8	3.7	3.3
Number of injecting partners	4.3	2.4	1.9	2.7

TABLE 5. (continued)

Behavioral Change Differences Between Control and
Case Management Groups
Baseline to 6-Month Followup

Risk Behaviors	Correlation Coefficients [†]	Multiple R [§]
Sex behaviors		
Number of sex partners	.07	.15
Use condoms	.24	.38
Drug-using behaviors		
Drug use		
Alcohol	.22	.35
Marijuana	.28	.39
Crack	.16	.37
Cocaine (noninjecting)	.09	.27
Cocaine (injecting)	.01	.36
Heroin and cocaine (injecting)	.30	.40
Use shooting gallery	.47	.51
Clean needles	.05	.17
Number of injecting partners	.57	.62**

* Incomplete data; pending completion of followup.

† Scores were computed on each variable by assigning a value of "0" to the "Never" category, "1" to the lowest category (for example, use condoms less than half the time), and adding "1" to each additional category in that variable.

‡ Pearson product-moment correlation.

§ Controlling for number of visits and time in program (months).

** $p < 0.01$

increased their use of shooting galleries. These results show a trend in the direction of improvement of HIV risk behaviors; however, as the data in the last section of table 5 show, only one behavior change was significantly different between the case management and control groups: The number of *different* people with whom the study participant injected *and* had sex was significantly different between the control and experimental groups.³

These preliminary findings are suggestive, given the pattern of difference between the two groups, that case management may not only improve health

TABLE 6. *Service costs for case-managed HIV-positive IDUs (n=38)*

Service Type	Number of Services		Service Cost				Percent of Total Cost
	Total	Per Individual	Mean (\$)	Low (\$)	High (\$)	Total (\$)	
Inpatient	13	0.3	8,856	3,713	27,228	115,126	68
Outpatient	91	2.4	441	0	1,457	40,154	24
Pharmacy	136	3.6	16	0	133	2,239	1
Psychosocial	22	0.6	33	17	53	732	0
Other*	68	1.8	172	16	1,415	11,679	7
Totals	330	8.7	4,472†			169,930	100

* Includes emergency room (23), individual educational counseling (21), group residential (10), supplies (10), and substance abuse counseling (4)

†For all services, per individual

care access and delivery of services to IDUs but also may improve their situation for additional risks for HIV infections and, thus, survival time.

Cost of Services

The following are some descriptive cost data on services received by 38 of the case management clients in the period August 1, 1990, through September 30, 1991. (All cost information in this analysis is based on extant operations data from SFAN. Consequently, no service cost data are available for the control group.) For all participants randomized into the case management group, individual services received and their costs (when documented) were abstracted from SFAN records and recorded in participant files maintained by CDRC for evaluation purposes.

There were 330 instances of documented services identified that had billed costs recorded; these were abstracted from the case files of 38 patients and were grouped into categories as shown in table 6 for this analysis. The case-managed participants averaged 8 to 9 services each (mean=8.7, median=7.5); only 11 percent of the case-managed group had more than 15 service transactions within the 13-month period reviewed. Pharmacy transactions (mean=3.6) were the most common, but these services were not very expensive according to the case management records: Pharmacy services averaged only \$16 per transaction and totaled only 1 percent of the aggregated expenditures for all recorded services. Conversely, "inpatient" services were the least frequently noted but by far the most expensive. The average cost per instance for the 13 inpatient "services" reported was almost \$9,000; these

services represented more than two-thirds of the aggregated expenditures for all services recorded.

Given that the population of interest is IDUs, it is important to note that "substance abuse counseling" services were recorded in 4 instances for these 38 patients (with group and individual psychosocial counseling services being noted in another 22 instances). Because these few substance abuse counseling services were combined with various other services (see table 6 note explaining "other" category), it was not possible here to assign cost figures to these services.

Followup of Participants

Participants in the control group were seen for a followup assessment at 6 months after the date when baseline data were captured (at their initial entry into the CDRC National AIDS Demonstration Research [NADR] study and their assignment to the control condition for this HRSA case management demonstration program evaluation). In the interim between initial assessment and followup, the CDRC social worker was available to provide assistance on request to all NADR research subjects (including those in the control group for this HRSA project). The CDRC social worker received 33 contacts from control group members and made 42 referrals to appropriate services (table 4). Complete data from the 6-month followup assessments for the control group will not be available until sometime later and when the last of the control group will have been reinterviewed.

The schedule for contact with the case manager was every 2 weeks, and most of the clients in the case management group were seen on a regular basis. Following SFAN procedures, case managers first attempted contact via telephone, followed by a letter, then a field visit. If all those attempts failed, the case manager referred the case to the CDRC outreach worker for followup.

Table 7 shows the followup data for the case management group. For each visit to SFAN, means of 1.5 attempts were made to reach the client by telephone, 1.1 times by letter, and 1.2 times by field visit. An average of 8.8 minutes (median=5) was spent on each telephone attempt. (The high number of minutes used to reach clients can be attributed both to busy SFAN telephone lines and the homeless or street-frequenting character of the HIV-positive IDU clients in this study.)

As described above, the CDRC social worker did not make active attempts to contact the study participants, but CDRC outreach workers do make attempts to maintain contact with study subjects to facilitate relocating and reminding

TABLE 7. *Case management group: followup data*

Case Manager Attempts To Maintain Contact	Mean	Median
Number of attempts by		
Telephone	1.5	1.0
Letter	1.1	1.0
Field visit	1.2	1.0
Mean number of minutes on telephone in making attempts	8.8	5.0
Referrals to outreach	1.0	1.0

	Minutes With Client	
Time Spent Discussing Risk Reduction	Mean	Median
Risk-reduction topic		
AIDS 101	8.1	10.0
Safe sex	7.3	6.0
Universal precautions	5.6	5.0
Drug reduction	8.0	7.0

the subjects of the scheduled followup assessments. It is instructive to note that there is documentation that one-half of all attempted subject contacts require an intermediary or referral by a friend, acquaintance, or relative before direct contact is made.

These data reinforce the implications of the contact data reported for the case-managed group in table 7: Maintaining frequent contact with IDUs is both time and labor intensive. The data also suggest that attention to engagement and interaction with a client is a critical task of a case manager working with IDUs, a group that is alienated from most institutions. The data also seem to indicate that the more ill the client is, the greater the number of visits he or she makes to see the case manager.

For some case management clients, every contact made with the public health and welfare system was reported to SFAN. Among those clients, the mean number of contacts with the system was 8.14 (median=10), not controlling for time in the program (data not shown). Sixty-two percent of clients were seen

on average at least once every 2 months; 15 percent were seen only once after enrollment. The maximum number of system contacts was 35.

IMPLICATIONS FOR CONDUCTING FUTURE RESEARCH ON CASE MANAGEMENT

Results from the authors' study indicate that future studies of IDUs need to compare different approaches to case management to determine the degree to which they change HIV risk behaviors, increase compliance with treatment, yield client satisfaction with services, and increase survival time. These studies need to evaluate the kinds of systematic baseline status and client service needs assessments, such as physical and mental status and social support, that are required to determine a specific treatment plan. In addition, investigation needs to be conducted on population-specific assessments and case management models (e.g., gender-specific needs such as gynecologic complications and reproductive issues). Finally, the effects of case management approaches on case manager burnout and caregiver burden also need to be studied.

The literature describes case management strategies as encompassing three primary components: assessment of needs, coordination of services, and monitoring of service delivery. Kane and colleagues (1989) discussed several elements that are integral to a variety of case management models. These basic elements include client screening, needs assessment, care planning, implementing the service delivery plan, monitoring service delivery, and reassessing the service delivery process. Two sources of variation that may impinge on both case management costs and effectiveness are whether the case management program performs all the functions listed above and whether any case management functions within the case management organization are delegated to one or more organizations in the community (Kane et al. 1989).

Research on the effectiveness of case management with IDUs should also evaluate outcomes in light of the availability of existing services. Community-based case management has been employed in managing the delivery of services to HIV-infected clients. Mor and colleagues (1989) examined case management models that were utilized in the AIDS Health Service Programs. These programs placed primary emphasis on satisfying the clients' needs. The four goals of community-based case management for HIV-infected persons were the following: increasing access to service, identifying barriers and gaps in service, improving continuity of care and service coordination, and improving overall client satisfaction (Mor et al. 1989). Mor and coworkers (1989) concluded that the major obstacle to providing case-managed care to

HIV-infected persons was the lack of many essential services, such as housing options, transportation, and drug abuse treatment slots.

Research could be conducted on the use of professionals vs. nonprofessionals in the delivery of case management with HIV-positive IDUs. The literature provides discussion about the appropriate roles for case managers. Some primary roles of the case manager are to act as an advocate and counselor (Secord and Parker 1987), as a therapist (Rothman 1991), and as a gatekeeper to a variety of medical care services (Hurley et al. 1989; Rothman 1991). Nonprofessional case managers, like those in the current study, can be advocates and gatekeepers but are not expected to be counselors and therapists. Weil and Karls (1985) described three different types of case management models differentiated by level of providers: professionals or specially trained paraprofessionals, nonprofessionals, and multidimensional staff of the comprehensive service centers. These researchers further describe three variants of case management provided by professionals. In the first model, the generalist case manager (or broker) model, the case manager takes the client through the entire case management process. The second model, the primary-therapist-as-case-manager model, may be utilized when the case manager's relationship with the client is primarily therapeutic. In the third model, the interdisciplinary model, a team of managers is utilized to implement specific case management functions. Although models using nonprofessionals may prove most cost-effective, little information exists to guide development of such models. Weil and Karls (1985) also describe three models in which case management is provided by nonprofessionals who have a special relationship with the client: The family-as-case-managers model enlists family members as case managers; the supportive care model utilizes a support care worker, usually from the community, to work as a client's case manager; the volunteer-case manager model assigns a volunteer to work as a client's case manager.

A review of the literature on social support and HIV provides theoretical considerations for case management with IDUs that move beyond service delivery. Case managers can provide supportive roles to HIV-positive drug users who may be lacking a large supportive network. Knowledge that one is HIV seropositive has been shown to be a distressing life event (Casadonte et al. 1990; Blaney et al. 1990; Antoni et al. 1990). Avoidance coping, a response that may prevent individuals from reducing HIV risk or from receiving early HIV intervention services, has been found in several studies of HIV-seropositive persons (Ironson et al. 1990; Jacobsen et al. 1988). In addition, several studies have shown that social support buffers the stress associated with knowledge that one is HIV seropositive (Zich and Temoshok 1987; Noh et al. 1990; Blaney et al. 1991). To study the effects of a case management intervention with HIV-seropositive IDUs, Cobb's (1976) theoretical model of

social support includes several dimensions that are particularly useful. These dimensions include the provision of emotional support, active support (defined as reflecting the receipt of care), esteem support, material support, and instrumental support (Cutrona and Russell 1990).

Mor and colleagues (1989) also noted that few studies have assessed the cost-effectiveness of case management programs; cost-effectiveness usually has secondary focus. Most studies indicate that case management may cost more than traditional service delivery. Although it has been demonstrated that case management may be as effective in the delivery of service as traditional service delivery models, it is unclear whether case management techniques improve the quality of life of clients (Franklin et al. 1987). In addition, it is unclear whether appropriate use of services using case management techniques will ultimately reduce total cost of care. Currently, the financial benefits of case management remain largely undetermined. Cost-effectiveness of case management programs depends on overhead, levels of staff education and training, and the amount of client contact required (Secord and Parker 1987) as well as other factors. Longitudinal studies are needed to determine long-term effects of this methodology.

The determination of service costs was not one of the initial objectives of the Miami case management project. After project implementation, it was decided that an attempt would be made to capture whatever service cost data were available or could be abstracted from current records. A preferable design would minimally have included mechanisms to capture comparison data from the control subjects, but the study had to proceed within the limits of its resources.

As originally designed, this study had two sets of outcome objectives: Set 1 focused on "services," that is, referrals made, placements, and specific services delivered. The stated intent was to collect and compare data following the more passive referrals made for those in the control group with more active involvement, such as advocacy, transportation services, and followup, for referrals made for those in the case management group. Set 2 focused on drug use and sexual risk behaviors, with the interest being in the impact of case management in securing services for IDUs that were instrumental in risk reduction.

Logically, cost comparisons between the two groups should reveal greater expenditures for the case-managed group if the calculations are simply the sum of the costs for all services received (including the case management service). After all, one of the objectives of case management is to improve consumer knowledge and success in accessing appropriate services.

More sophisticated cost-benefit or cost-containment analyses require that some putatively avoidable costs (e.g., hospitalization or other higher cost services for treatment of patient problems) be quantifiable in dollars and contrastable to services designed for problem and/or cost avoidance or prevention. This is particularly true for the intervention objectives contained in Set 1. Cost-benefit analysis refers to a family of procedures employed when both the costs and the benefits of an intervention can be measured and compared monetarily. This approach can be contrasted to cost-effectiveness analysis, an evolving, as yet unstandardized, area of investigation that addresses the relationships between program dollar costs and outcomes or impacts that are measured in units other than dollars.

Cost-effectiveness analysis may be more appropriate for analyzing the intervention objectives noted in Set 2. Either of these types of analysis would seem to require at least some knowledge of "disease stage," that is, case management and control groups should not be compared where one group is mainly asymptomatic at baseline whereas the other is mainly symptomatic.

There are few cost analysis studies available that document the costs of HIV diseases in the United States; Hardy and colleagues (1986), Scitovsky and Rice (1987), and Bloom and Carliner (1988) are cited by Rice and coworkers (1990) as documenting the direct and indirect HIV costs in macro terms. More studies can be found that document the direct personal medical care costs of AIDS (Andrulis et al. 1987; Green et al. 1987; Hellinger 1988, 1990; Sisk 1987; Scitovsky 1988, 1989), but none of these cited studies provide estimates of the direct and indirect costs of the AIDS-causing virus among people who inject drugs intravenously. (This situation is similar to what Apsler and Harding [1991], Cross and coworkers [1988], and Hubbard and colleagues [1989] reported regarding the rarity—virtual nonexistence—of cost-effectiveness studies for drug abuse treatment.) Thus, studies such as this one, but that are specifically designed to ascertain the cost-effectiveness of case management for HIV-positive IDUs, are recommended.

NOTES

1. An analysis conducted in August 1991 regarding nonenrollees found that 21 percent were uninterested and that 21 percent were already receiving services elsewhere.
2. Case managers provided basic educational services such as AIDS 101 and HIV risk reduction. In the first visit, this was done 17 times; second visit, 21 times; third visit, 18 times; fourth visit, 15 times; fifth visit, 16 times; and sixth visit, 16 times.

3. Behavior change differences between the case management and control groups were analyzed using Pearson correlation coefficients to determine the relationship between the variable at baseline and the same variable at followup. In addition, multiple linear regression analysis was conducted to determine the change between a baseline variable and the variable at followup, controlling for program assignment (case management or control), the number of visits, and time in the program.

REFERENCES

- Andrulis, D.P.; Beers, V.S.; Bentley, J.D.; and Gage, L.S. The provision and financing of medical care for AIDS patients in U.S. public and private teaching hospitals. *JAMA* 258:1343-1346, 1987.
- Antoni, M.; August, S.; LaPerriere, A.; Baggett, H.; Klimas, N.; Ironson, G.; Schneiderman, N.; and Fletcher, M. Psychological and neuroendocrine measures related to functional immune changes in anticipation of HIV-1 serostatus notification. *Psychosom Med* 52:496-510, 1990.
- Apsler, R., and Harding, W.M. Cost-effectiveness analysis of drug abuse treatment: Current status and recommendations for future research. In: *Drug Abuse Services Research Series*. No. 1. National Institute on Drug Abuse. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991. pp. 58-81.
- Blaney, N.; Goodkin, K.; Morgan, R.; Feaster, D.; Millon, C.; and Szapocznik, J. A stress-moderator model of distress in early HIV-1 infection concurrent analyses of life events, hardiness, and social support. *J Psychosom Res* 35(2-3):297-305, 1991.
- Blaney, N.; Millon, C.; Morgan, R.; Eisdorfer, C.; and Szapocznik, J. Emotional distress, stress-related disruption and coping among healthy HIV-1 positive gay males. *Psychol Health* 4:259-273, 1990.
- Bloom, D.E., and Carliner, G. The economic impact of AIDS in the United States. *Science* 239:604-610, 1988.
- Casadonte, P.; Des Jarlais, D.; Friedman, S.; and Rotrosen, J. Psychological and behavioral impact among intravenous drug users of learning HIV test results. *Int J Addict* 25(4):409-426, 1990.
- Centers for Disease Control. *HIV/AIDS Surveillance Report*. Atlanta, GA: National Center for Infectious Diseases, February 1989.
- Centers for Disease Control. *HIV/AIDS Surveillance Report*. Atlanta, GA: National Center for Infectious Diseases, June 1990.
- Centers for Disease Control. *HIV/AIDS Surveillance Report*. Atlanta, GA: National Center for Infectious Diseases, July 1991.
- Cobb, S. Social support as a moderator of life stress. *Psychosom Med* 38:300-314, 1976.
- Cross, T.; Saxe, L.; and Hack, M. *The Effectiveness of Treatment Settings for Cocaine and Other Non-Opiate Drugs*. Waltham, MA: Bigel Institute for Health Policy, 1988.

- Curran, J. Trends in the epidemiology of HIV-related illnesses: Implications of recent research. In: LeVee, W., ed. *New Perspectives on HIV-Related Illnesses: Progress in Health Services Research*. DHHS Pub. No. (PHS)89-3449. Miami, FL: National Center for Health Services Research and Health Care Technology Assessment, 1989. pp. 7-12.
- Cutrona, C., and Russell, D. Type of social support and specific stress toward a theory of optimal matching. In: Sarason, B.; Sarason, I.; and Pierce, G., eds. *Social Support: An Interactional View*. New York: Wiley, 1990. pp. 319-366.
- Dade County Public Health Unit. *AIDS Surveillance Report*. November 1, 1991.
- Fineberg, H. Application of health services research on HIV infection to the formulation of health policy. In: LeVee, W., ed. *New Perspectives on HIV-Related Illnesses: Progress in Health Services Research*. DHHS Pub. No. (PHS)89-3449. Miami, FL: National Center for Health Services Research and Health Care Technology Assessment, 1989. pp. 13-17.
- Franklin, J.; Solovitz, B.; Mason, M.; Clemons, J.; and Miller, G. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- Green, J.; Singer, M.; Wintfeld, N.; Schulman, K.; and Passman, L. Projecting the impact of AIDS on hospitals. *Health Aff (Millwood)* 6(3):19-31, 1987.
- Hardy, M.M.; Rauch, K.; Echenberg, D.; Morgan, W.M.; and Curran, J.W. The economic impact of the first 10,000 cases of acquired immunodeficiency syndrome in the United States. *JAMA* 255:209-211, 1986.
- Hellinger, F.J. Forecasting the personal medical care costs of AIDS from 1988 through 1991. *Public Health Rep* 103:309-319, 1988.
- Hellinger, F.J. Updated forecasts of the costs of medical care for persons with AIDS, 1989-93. *Public Health Rep* 105(1):1-12, 1990.
- Hubbard, R.L.; Marsden, M.E.; Rachal, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment: A National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989.
- Hurley, R.; Freund, D.; and Taylor, D. Gatekeeping the emergency department: Impact of a Medicaid primary care case management program. *Health Care Manage Rev* 14(2):63-71, 1989.
- Ironson, G.; LaPerriere, A.; Antoni, M.; O'Hearn, P.; Schneiderman, N.; Klimas, N.; and Fletcher, M. Changes in immune and psychological measures as a function of anticipation and reaction to news of HIV-1 antibody status. *Psychosom Med* 52:247-270, 1990.
- Jacobsen, P.; Perry, S.; Hirsch, D.; Scavuzzo, D.; and Roberts, R. Psychological reactions of individuals at risk for AIDS during an experimental drug trial. *Psychosomatics* 29(2):182-187, 1988.
- Kane, R.; Penrod, J.; Davidson, G.; Moscovice, I.; and Rich, E. *Case Management Costs: Conceptual Models and Program Descriptions*. Minneapolis, MN: University of Minnesota School of Public Health, Division of Health Services Research, 1989.

- Mor, V.; Piette, J.; and Fleishman, J. Community-based case management for persons with AIDS. *Health Aff (Millwood)* 8(4):139-153, 1989.
- Noh, S.; Chandarana, P.; Field, V.; and Posthuma, B. AIDS epidemic, emotional strain, coping and psychological distress in homosexual men. *AIDS Educ Prev* 2(4):272-283, 1990.
- Rice, D.P.; Kelman, S.; Miller, L.S.; and Dunmeyer, S., eds. *The Economic Costs of Alcohol and Drug Abuse and Mental Illness: 1985*. San Francisco: Institute for Health and Aging, 1990.
- Rothman, J. A model of case management: Toward empirically based practice. *Soc Work* 36(6):520-528, 1991.
- Shultz, J.M.; Elliot, L.; McCoy, C.B.; Greer, P.J.; Bock, A.; and Needle, R. Acquired immunodeficiency syndrome—Dade County, Florida, 1981-1990. *MMWR* 40(29):865-868, 1991.
- Scitovsky, A.A. The economic impact of AIDS in the United States. *Health Aff (Millwood)* 7(4):32-45, 1988.
- Scitovsky, A.A. Studying the cost of HIV-related illnesses: Reflections on the moving target. *Milbank Q* 67(2):318-344, 1989.
- Scitovsky, A.A., and Rice, D.P. Estimates of the direct and indirect cost of acquired immunodeficiency syndrome in the United States, 1985, 1986, and 1991. *Public Health Rep* 102(1):5-17, 1987.
- Secord, L., and Parker, M. All about private case management. *Health Cost Manage* 4(6):1-11, 1987.
- Sisk, J.E. The costs of AIDS: A review of the estimates. *Health Aff (Millwood)* 6(2):5-21, 1987.
- Weil, M., and Karls, J., eds. *Case Management in Human Service Practice*. San Francisco: Jossey-Bass, 1985.
- Zich, J., and Temoshok, L. Perceptions of social support in men with AIDS and ARC relationships with distress and hardiness. *J Appl Soc Psychol* 17:193-215, 1987.

ACKNOWLEDGMENT

The authors acknowledge the contributions of SFAN for implementation of the project and data collection for evaluation purposes.

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Case Management Models for Homeless Persons With Alcohol and Other Drug Problems: An Overview of the NIAAA Research Demonstration Program

Harold I. Perl and Mary Lou Jacobs

INTRODUCTION

Since 1987 the U.S. Congress has authorized and funded several Federal programs to address homelessness under the Stewart B. McKinney Homeless Assistance Act (Public Law 100-77) and subsequent amendments to that act. Sections of this law authorized the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to establish programs of alcohol and other drug treatment interventions for homeless persons. In fiscal year (FY) 1987, NIAAA, in consultation with the National Institute on Drug Abuse (NIDA), initiated a program of nine Community Demonstration Grant Projects for Alcohol and Drug Abuse Treatment of Homeless Individuals (National Institute on Alcohol Abuse and Alcoholism 1988). Several of these projects provided case management as a component of their interventions; in fact, one project evaluated a specific case management model (see Ridgely and Willenbring, this volume).

In FY 1990, NIAAA, again in consultation with NIDA, initiated a second-generation research demonstration program that built on many of the lessons learned through the first program. The Cooperative Agreements for Research Demonstration Projects on Alcohol and Other Drug Abuse Treatment for Homeless Persons required that projects provide extended interventions such as comprehensive treatment, self-help group involvement, case management, transitional and permanent housing, and vocational training. Fourteen projects were funded in the following cities: Albuquerque, NM, Birmingham, AL, Chicago, IL, Denver, CO, Evanston, IL, Los Angeles, CA, New Haven, CT, New Orleans, LA, Newark, NJ, Philadelphia, PA, St. Louis, MO, Seattle, WA, Tucson, AZ, and Washington, DC. Further information on the 14 projects is presented in appendix 1.

The Cooperative Agreement program contains six key design and evaluation requirements. Each project is required (1) to spend at least 25 percent of its direct costs on evaluation activities, (2) to employ an experimental or quasi-experimental evaluation design, (3) to evaluate the experimental intervention against one or more comparison groups, (4) to measure outcome with a core battery of assessment instruments specified by NIAAA, (5) to conduct process and program implementation evaluations, and (6) to submit the process and outcome evaluation data to NIAAA at specified intervals as part of a national, multisite evaluation. The assessment instruments and evaluation plans are discussed in more detail later in this chapter.

The interventions being implemented by each Cooperative Agreement project are required to meet three primary goals: (1) reduce the consumption of alcohol and other drugs by the project participants, (2) increase the participants' level of shelter or residential stability, and (3) enhance their economic and/or employment status. Two secondary goals are improving the participants' physical and mental health status and increasing the linkages and cooperation among the various local social service agencies in addressing the multiple needs of homeless persons with alcohol and other drug problems.

Although the original Request for Applications (RFA AA-90-01) announcing the availability of program funds did not stipulate a specific treatment protocol to be implemented, 13 of the 14 projects proposed to provide case management services to meet these goals. In addition, each project is providing services in one or more of the following categories: outreach and engagement; alcohol and other drug treatment programming; and a housing component such as shelter care or supervised, supportive, or alcohol- and drug-free (ADF) housing. The next section presents an overview of the case management models that these projects are implementing and evaluating.

OVERVIEW OF CASE MANAGEMENT MODELS IN THE COOPERATIVE AGREEMENT PROGRAM

The RFA defined case management as "an array of activities coordinated through regular interaction with clients wherever they may be found to assure service needs are met. These include, but are not limited to, assessment and evaluation, continuous service planning, advocacy, benefits acquisition, and service linkage and monitoring" (RFA AA-90-01, p. 8).

Each project conceptualizes the structure and intensity of its case management model in a different way than the others, based in part on organizational philosophy and in part on local resources. Consequently, this chapter is not able to present a single model that adequately describes all the interventions

being implemented in this program; it does describe and define some of the structural and functional dimensions across which the different programs vary. More detailed descriptions of each project's proposed intervention and evaluation design can be found in "Synopsis of Cooperative Agreements for Research Demonstration Projects on Alcohol and Other Drug Abuse Treatment for Homeless Persons"¹ (National Institute on Alcohol Abuse and Alcoholism 1991a).

Dimensions of Case Management Models

Caseload refers to the number of clients for whom a given case manager is responsible. In the Cooperative Agreement program, the caseloads tend to average 14 to 15 clients per worker. However, in some projects caseloads are considerably smaller, in anticipation that individual client needs will be extensive. For example, case managers in the residential treatment component at the Los Angeles project carry a caseload of two dually diagnosed clients, and case managers in the New Haven project have a caseload of five cocaine-dependent individuals. In contrast, a case manager at the Newark project, where a model of intensive case management is being compared with a public welfare casework model, is responsible for 30 clients.

Duration refers to the length of time a case manager is responsible for serving a particular client. This may be time limited or ongoing. Four of the Cooperative Agreement projects provide duration of service for 3 to 4 months; and six projects provide a case management duration of 12 months or longer. Several of the latter were intended to be ongoing or indefinite interventions, but the funding and evaluation constraints of a 3-year demonstration program forced the determination of an endpoint for the case management services that may be somewhat arbitrary.

Team structure refers to two aspects of the manner in which the case management team works with the clients. The first aspect reflects whether the case management staff takes an individual approach in which each case manager works exclusively with a particular set of clients or takes a team approach in which any client can be served by any staff member. Typically, the Cooperative Agreement projects employ the individual approach. One interesting variation occurs in the Denver project, which utilizes dyads consisting of a primary case manager and a co-case manager; each dyad is responsible for 17 clients. A second aspect of team structure highlights the generalist vs. specialist dimension. In the generalist model, all case managers perform the same types of activities with and for each of their clients, whereas in the specialist model, certain staff members perform specific tasks in a particular area for all appropriate clients, such as applying for entitlement

programs like Supplemental Security Income or food stamps and creating linkages to housing or vocational training opportunities.

Direct provision of treatment is a dimension that reflects whether the case managers' responsibilities are limited to traditional case management functions, such as treatment planning, linkage, and advocacy, or whether the staff provides more direct services and treatment, either in addition to or in lieu of the traditional tasks. The projects in the Cooperative Agreement program are implementing models that draw on both variations of this dimension. About half the projects employ case managers to provide direct services and about half do not. In fact, the Washington, DC, project is comparing the effectiveness of a model that calls for provision of alcohol and other drug treatment provided by case managers with a model in which the case managers provide more indirect linkage services.

Another important dimension concerns the *qualifications* of the workers. Again, there is broad variation among the Cooperative Agreement projects. For example, some projects require that case managers be professionally trained, hold an advanced degree, or be otherwise credentialed, whereas other projects do not want professionally trained staff members for these positions. Other projects seek a balance between credentialed and noncredentialed workers. Similarly, some projects prefer that the workers be recovering persons, and some require that workers reflect the specific cultural and ethnic background of the target population and setting. Other projects have no preferences or requirements in those regards. The levels of previous case management experience that are required or preferred by the project also vary across the 14 Cooperative Agreement sites. In fact, one project finds that staff members with no experience are easier to train to implement an innovative model of case management.

The *location* of the client-case manager interactions is another dimension on which the different models vary. For example, case managers may meet with their clients out on the street, either by appointment or by happenstance, or they may meet in an office setting. If they do meet in an office, it may be part of the clients' residential setting or it may be located in a facility that is physically separate from the residential aspects of the project.

The dimensions described in the section above are representative of the case management models being implemented by the 14 Cooperative Agreement projects. As the evaluations progress over the course of the demonstration program, other dimensions may prove to be key aspects of effective case management models.

BARRIERS TO PROGRAM IMPLEMENTATION

The Cooperative Agreement projects received funds in September 1990. At the time of this writing, they have spent approximately 18 months implementing the case management models that they proposed in their original applications, including up to 9 months for startup activities. The projects have encountered obstacles to implementation, some of which have resulted in modifications to the original program designs. Some of the more commonly experienced obstacles are described below.

Inadequate Program Articulation

Because the Cooperative Agreement program provided support for new treatment interventions only or for expansions of services to substantially new populations, many project sites lacked prior experience in the provision of case management services, especially for homeless persons with alcohol or other drug problems. In addition, at that time the existing literature on the provision of case management services pertained mostly to homeless persons with a chronic mental illness. Consequently, few of the proposals specified a clear and descriptive explication of what they really intended to do regarding case management for homeless persons with alcohol and other drug problems.² When the projects began to implement their models in the field, much time had to be expended in operationalizing a concrete set of procedures and activities.

Staffing Issues

Staffing issues can have potent effects on program implementation. Projects in the Cooperative Agreement program have encountered staffing problems in several areas. Some projects have had difficulties with initial staff recruitment due perhaps to relatively low salaries being offered for case managers or the specification of certain requirements such as being in recovery or representing a particular cultural background. Some have encountered problems with staff training: Very few available staff members have had previous training or experience both in homelessness issues and in alcohol and other drug treatment. Excessive staff turnover, which is not uncommon in the highly labor-intensive atmosphere of case management programs, especially during the early stages of startup, can be disruptive, both in terms of the effect on the morale and sense of well-being of both the clients and staff and in terms of the need for constant training of new staff members. Some projects have found staff members to be very uncomfortable working with homeless persons, or they may have unrealistically high expectations of client behaviors and become discouraged with their perceived lack of client progress, especially if they have not had much exposure to this type of client.

Gaps In Existing Service Systems or Unanticipated Loss and Degradation of Available Resources

In some instances, the Cooperative Agreement projects discovered that the local, community-based service system did not resemble what had been expected. For example, the Washington, DC, project originally proposed implementing and assessing two different intensive case management models for clients with a dual diagnosis of chronic mental illness and alcohol and other drug abuse. Under the first model, the clients would receive alcohol and other drug treatment from the case managers on staff at the project site; under the second model, the project's case managers would arrange for clients to receive alcohol and other drug treatment services at outside agencies. Unfortunately, the project discovered that, contrary to expectations, adequate alcohol and other drug treatment services for dual-diagnosis clients could not be located outside the host agency. The design quickly was modified, and the project has implemented a program that compares a model of case manager-provided recovery services with a model that concentrates on developing more intensive social network support systems for the clients. Although this redesign was executed very quickly, extensive program modifications can entail a time-consuming delay in implementation.

In other communities, the level of existing services has been unexpectedly reduced across the entire State, county, or locality. For example, the host agency of another of the Cooperative Agreement project sites lost a substantial portion of its State funding. This reduction did not affect the NIAAA-funded project directly, but it did disturb many of the ancillary programs in which the project clients participated. Future reductions are not unlikely, given the current fiscal and political environment. Even if the cuts do not affect these projects in a direct manner, they probably would serve to reduce the richness of the service environments in which the projects are embedded and to lessen the chances that fiscal support for the demonstration programs would be provided by local sources after the Federal funding period has ended.

Systems Linkage Issues

As described earlier, one of the secondary objectives of the Cooperative Agreement program was for projects to work toward increasing the coordination and linkages among the various community agencies that may be serving homeless persons with alcohol and other drug problems. At the present time, the projects are typically at the stage of development in which the basic internal startup issues have been mastered, and they are now attempting to solidify viable working relationships with other local agencies and institutions. Nevertheless, this has not proved to be as simple as anticipated.

For example, many of the projects are either new entities or more established institutions expanding into an area that is relatively new for them, and therefore, they may not be aware of local political conditions. Consequently, the entities may act in ways that could cause the existing social service agencies to view them as potential competitors for scarce local resources. Even a well-established and politically savvy organization may be perceived as encroaching or expansive when it seeks to provide new services to clients whom it has not previously served.

One ramification of the competition issue is that some of the Cooperative Agreement projects have not been obtaining the number of client referrals from other local social service agencies that they had predicted. Several factors may contribute to this occurrence. In some cases, the Cooperative Agreement project managers and line staff may be relatively unknown to, and therefore not completely trusted by, the broader referral network that deals with homeless persons. Thus, they receive few or no referrals. This situation may be exacerbated by the reluctance of some service providers and referral sources to accept the random assignment of clients to intervention groups that is an integral part of the program design in the 14 Cooperative Agreement projects. The possibility of assignment to a no-treatment control group is perceived to be even less desirable when the level of available services in the local community is very low. Furthermore, some of the Cooperative Agreement projects have eligibility requirements that are very narrowly focused, and they are finding fewer potential participants that meet all the screening criteria.

In other cases, the Cooperative Agreement projects have found that certain idiosyncracies of the existing referral and service system have a dampening effect on their client flow. For example, one project discovered that one of the shelters in which their program was being implemented had a reputation on the street of being extremely intolerant of current or former alcohol and other drug users. Consequently, potential clients were extremely reluctant to admit alcohol and other drug use during their screening interview for fear of being judged unacceptable for shelter placement. At the same time, this reluctance resulted in clients being assessed as ineligible for the Cooperative Agreement project when they were within the eligibility guidelines.

Whatever the reasons for the unexpectedly low flow of potential clients, nearly all the projects in the Cooperative Agreement program have found that more active outreach and engagement activities needed to be developed as part of their program implementation. Typically, these have focused on the client level, but many projects have also instituted interventions at the service system level that would facilitate tapping into an already existing client base.

EVALUATION OF THE COOPERATIVE AGREEMENT PROJECTS

Evaluation is an integral component of the Cooperative Agreement program. Each of the 14 projects is committed to conducting extensive outcome and process evaluations at the individual site level and to participating in a national, multisite evaluation. A major component of these evaluations will be tests of the effectiveness of the various intervention programs, including the models of case management that are being implemented. Details of the evaluation are presented below.

Outcome Assessment

At the heart of the outcome evaluations, at both the individual and multisite levels, is the core battery of assessment instruments that each project is required to utilize. (A detailed explanation of the core battery is beyond the scope of this chapter, but additional information may be obtained from the primary author.) The battery comprises the Addiction Severity Index (ASI) (McLellan et al. 1985), the housing portions of the Personal History Form (PHF) (Barrow et al. 1985), and the Alcohol Dependence Scale (Horn et al. 1984). The ASI and the PHF both have been modified extensively by NIAAA to make them more appropriate for use with the population of homeless persons with alcohol and other drug problems and to better fit the requirements of the Cooperative Agreement program. Reliability and validity studies of the modified instruments are being conducted at both the individual and the multisite levels. In addition, NIAAA has provided extensive training in the administration of the core battery of instruments to research assessment staff members at the project sites. A national training workshop was held for all the assessment supervisory personnel, and an onsite training workshop was conducted for the assessment line staff at every project site. At the time of this writing, additional followup training workshops have been provided to two project sites.

Implementation Assessment

The implementation of the case management models at each project site is assessed with several methods. One strategy is based on the development of detailed logic models for all the components of each project. Several editions of the logic models have been, or will be, prepared. The initial logic model is based on the originally proposed program, and subsequent versions will reflect the evolution of the program design as it is implemented over the course of 3 years. Other methods of assessing program implementation include a quantitative instrument developed by NIAAA, the Quarterly Report Form (QRF) (National Institute on Alcohol Abuse and Alcoholism 1991b), regularly scheduled qualitative assessments (comprehensive investigative telephone

calls to each project site at least five times per year), and other episodic formal and informal methods (conversations between project site-level and national-level staff during regularly scheduled working group meetings of the Cooperative Agreement investigators in Bethesda, MD, and requests from individual projects for technical assistance on a particular issue). These assessment methods are each well suited for a more focused examination of the case management models being implemented by the projects.

The QRF is key to the implementation assessment. NIAAA expects that both the quantitative and qualitative information gathered with this instrument will be extremely valuable. The QRF should be able to reveal precisely what components of the various case management models were implemented and to what degree. These data then can be linked with the more quantifiable outcome data being collected elsewhere and, ideally, will provide the opportunity to isolate what are the "active ingredients" of case management and determine their effectiveness in treating homeless persons with alcohol and other drug problems.

The foundation of the QRF is the "Glossary of Service Activities for Alcohol and Other Drug Abuse Treatment of Homeless Persons" (National Institute on Alcohol Abuse and Alcoholism 1991c). This glossary represents an extensive revision of an earlier taxonomy of services (National Institute on Alcohol Abuse and Alcoholism 1989) used in the first round of Community Demonstration projects. The glossary was developed by staff of NIAAA and R.O.W. Sciences, Inc., with major guidance and advice from a specially convened expert technical advisory panel. The glossary defines 39 specific services that have been organized into 7 broad service categories: (1) services planning and monitoring, (2) alcohol and other drug abuse treatment services, (3) mental health services, (4) services and benefits acquisition and coordination, (5) prevocational and vocational training, (6) health care, and (7) other services. These services can be provided in one or more of the following seven different service settings: (1) outpatient, (2) street, (3) residential treatment, (4) ADF housing, (5) shelter, (6) independent housing, and (7) other.

The QRF combines these service types and service settings to form a matrix that can describe whether a particular client receives a particular service in a particular setting. The matrix also designates the provider of the service, using one of the following categories: case manager, addictions counselor, other provider, case manager and addictions counselor, case manager and other provider, addictions counselor and other provider, case manager and addictions counselor and other provider, and provider unknown.

Another section of the QRF describes program implementation at the project level. For each major project objective (including case management services) this section describes progress toward achieving the objective during the past quarter, the presence of any barriers to achieving the objective, and approaches that were employed to overcoming the barriers. A final section of the QRF presents a detailed and cumulative flow chart of the project's clients during the entire project period. NIAAA uses this flow information to track the enrollment, retention, graduation, and followup rates of the project participants.

The QRF is completed by program and evaluation staff at each of the project sites. QRF data are submitted to NIAAA on a quarterly basis. Nine of the projects are submitting these data with the standard QRF, which records the absence or presence of a particular service for a particular client in a particular setting during the reporting period. The other five projects are employing a more comprehensive, alternate version of the QRF, which records the units of service that clients have received in each category of service type and setting.

An additional instrument, the Treatment Services Interview (TSI) (National Institute on Alcohol Abuse and Alcoholism 1991*d*), developed as an adjunct to the QRF, is a brief client interview form designed to assess the client's use of treatment services from all sources during the preceding 60 days. All the data in the TSI are based on the client's self-report and are expected to complement the data obtained with the QRF.

CONCLUSION

The NIAAA program of Cooperative Agreements for Research Demonstration Projects on Alcohol and Other Drug Abuse Treatment for Homeless Persons builds on the earlier round of Community Demonstration projects supported by NIAAA and represents a more sophisticated effort to implement and evaluate different models of case management interventions for this population. The program provides a graphic example of how various models of case management have been operationalized in different ways across the project sites. Although at the time of this writing the projects are still in the early stages of implementation, NIAAA expects to learn a great deal about the effectiveness of case management interventions for homeless persons with alcohol and other drug problems. A final multisite, national evaluation report is expected in fall 1994, but prior to that, NIAAA will sponsor various monographs, technical papers, and research conferences to disseminate the important information that this program will yield. In addition, each of the 14 Cooperative Agreement projects will be publishing descriptions and evaluations of their individual interventions in the scientific literature.

NOTES

1. This document and the other NIAAA publications cited in this chapter are available through the National Clearinghouse on Alcohol and Drug Information (1-800-729-6686).
2. This also was due in part to the limited page constraints of the application form for U.S. Public Health Service funding.

REFERENCES

- Barrow, S.M.; Hellman, F.; Lovell, A.M.; Plapinger, J.D.; Robinson, C.R.; and Streuning, E.L. *Personal History Form*. New York: New York State Psychiatric Institute, 1985.
- Horn, J.L.; Skinner, H.A.; Wanberg, K.; and Foster, F.M. *Alcohol Dependence Scale*. Toronto: Addiction Research Foundation of Ontario, 1984.
- McLellan, A.T.; Luborsky, L.; Cacciola, J.; McGahan, P.; and O'Brien, C.P. *Guide to the Addiction Severity Index: Background, Administration, and Field Testing Results*. DHHS Pub. No. (ADM)85-1419. National Institute on Drug Abuse. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1985.
- National Institute on Alcohol Abuse and Alcoholism. *Synopses of Community Demonstration Grant Projects for Alcohol and Drug Abuse Treatment of Homeless Individuals*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1988.
- National Institute on Alcohol Abuse and Alcoholism. *Services for Homeless People With Alcohol and Other Drug Problems: A Taxonomy for Reporting Data on the Utilization of Services and on Systems Level Linkage Activities*. Contract No. (ADM)281-88-0003. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1989.
- National Institute on Alcohol Abuse and Alcoholism. *Glossary of Service Activities for Alcohol and Other Drug Abuse Treatment of Homeless Persons*. DHHS Pub. No. (ADM)91-1847. Rockville, MD: U.S. Department of Health and Human Services, U.S. Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, 1991c.
- National Institute on Alcohol Abuse and Alcoholism. *Quarterly Report Form*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1991b.
- National Institute on Alcohol Abuse and Alcoholism. *Synopses of Cooperative Agreements for Research Demonstration Projects on Alcohol and Other Drug Abuse Treatment for Homeless Persons*. DHHS Pub. No. (ADM)91-1763. National Institute on Alcohol Abuse and Alcoholism. Rockville, MD: U.S. Department of Health and Human Services, U.S. Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, 1991a.

National Institute on Alcohol Abuse and Alcoholism. *Treatment Services Interview*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 1991d.

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APPENDIX 1. *List of Cooperative Agreement sites, by site location, project title, and principal investigator*

ALBUQUERQUE, NM

Substance Abuse Treatment Programs for Homeless Persons

Sandra Lapham, M.D.
Director
Substance Abuse Research Programs
Lovelace Medical Foundation
Suite 302
1650 University Towers Building
Albuquerque, NM 87102
(505) 246-2403

BIRMINGHAM, AL

Comparative Substance Abuse Treatments for the Homeless

Jesse Milby, Ph.D.
Professor of Medicine and Psychology
University of Alabama at Birmingham
Medical School
700 South 19th Street
Birmingham, AL 35205
(205) 934-8960

CHICAGO, IL

Demonstration of Case Management and Supported Housing

Michael Sosin, Ph.D.
Professor
University of Chicago
School of Social Service
Administration
969 East 60th Street
Chicago, IL 60637
(312) 702-1129

DENVER, CO

Intensive Case Management for Homeless Substance Abusers

G. Nicholas Braucht, Ph.D.
Professor and Chairman
Department of Psychology
University of Denver
2155 South Race Street
Denver, CO 80208
(303) 871-3701

EVANSTON, IL

Case-Managed Residential Care for Homeless Addicts

Kendon Conrad, Ph.D.
Research Assistant Professor
Northwestern University
629 Noyes Street
Evanston, IL 60208
(708) 491-2192

LOS ANGELES, CA

Evaluation of Treatment Options for the Dually Diagnosed

M. Audrey Burnam, Ph.D.
Senior Behavioral Scientist
The RAND Corporation
1700 Main Street
Santa Monica, CA 90407-2138
(301) 393-0411, ext. 6370

NEW HAVEN, CT

*Research on Services for Homeless
Substance Abusers*

James F. Jekel, M.D., M.P.H.
CEA
Winslow Professor of Epidemiology
and Public Health
Yale University School of Medicine
P.O. Box 3333
60 College Street
New Haven, CT 06519
(203) 785-2849

NEW ORLEANS, LA

*New Orleans Homeless Substance
Abuse Project*

James D. Wright, Ph.D.
Charles A. and Leo M. Farrot
Professor of Human Relations
Department of Sociology
Tulane University
Newcomb Hall 220
New Orleans, LA 70118
(504) 865-5820

NEWARK, NJ

*Homelessness, Substance Abuse: An
Investigation of Two Interventions*

John Franklin, M.D.
Assistant Professor
Department of Psychiatry
University of Medicine and Dentistry
ADMC-1408
30 Bergen Street
Newark, NJ 07103-7000
(201) 456-6431

PHILADELPHIA, PA

*Assessing Treatments for Homeless
Poly-Addicted Men*

Thomas E. Shipley, Jr., Ph.D.
Professor
Department of Psychology
Temple University
Broad Street and Montgomery Avenue
Philadelphia, PA 19122
(215) 787-7458

SEATTLE, WA

*Intensive Case Management for
Chronic Public Inebriates*

Gary Cox, Ph.D.
Research Associate Professor
Department of Psychiatry and
Behavioral Sciences,
XD-45
University of Washington
Seattle, WA 98195
(206) 543-3555

ST. LOUIS, MO

*Substance-Abusing Homeless
Families: Breaking the Cycle*

Elizabeth M. Smith, Ph.D.
Associate Professor
Washington University School of
Medicine
4940 Audubon Avenue
St. Louis, MO 63110
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TUCSON, AZ

*Southern Arizona Alcohol/Drug
Program for the Homeless*

Sally Stevens, Ph.D.
Director
Amity Settlement Services
47 East Pennington
Tucson, AZ 85701
(602) 741-7574

WASHINGTON, DC

*Washington, DC, Homeless
Dual-Diagnosis Project*

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Lebanon, NH 03756
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Integrating Qualitative and Quantitative Components in Evaluation of Case Management

Mark L. Willenbring

INTRODUCTION

Social workers are fond of pointing out that case management is a rediscovery of the casework they have been doing all along, and in many ways this view is correct. As the complexity of human problems society confronts has increased, service providers have turned to case management in an attempt to coordinate and organize an often-fragmented system of care. Something similar can be said about a recent shift toward qualitative program research, especially applied ethnography. Although not so long ago the emphasis seemed to be more on quantitative outcome methods, program evaluations have been turning more to qualitative methods to try to bring some order and meaning to what may be incomplete or incomprehensible quantitative results. Although anthropologists and other social scientists may understandably complain about the belated nature of this attention, it is nevertheless a welcome change.

However, integrating data from an ethnography performed coincidentally with a randomized, controlled treatment comparison is not a simple task. Unfortunately, qualitative and quantitative researchers have tended to divide into competing camps, so this kind of integrated approach is not commonplace. It is to the credit of the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) that they have encouraged this recent development in a variety of research demonstration projects. Having recently participated in such a project in which the investigators attempted to integrate qualitative and quantitative approaches (and being a recent convert to qualitative approaches), the author would like to share some observations on this process. In doing so, I shall illustrate more general points with specific examples from our project.

Before describing the project, however, I wish to emphasize the important distinction between program philosophy as articulated by the planners and staff

of the program and a description of the program activities that the staff engages in. As noted elsewhere (Willenbring et al. 1991; Ridgely and Willenbring, this volume), this distinction is not always obvious, and program philosophy is often described in lieu of measurement of the intervention process itself. Because it is in describing program interventions that a combination of quantitative and qualitative methods is particularly helpful, this chapter begins with a brief discussion of this contrast. Readers impatient with this more conceptual discussion may wish to skip to the following, more pragmatically oriented sections and return to this section as needed for clarification.

OVERALL EVALUATION STRATEGY

The Importance of the Program Concept

As Ridgely and Willenbring (this volume) point out, the first step in quantitative measurement of case management involves separating program philosophy and goals from the daily activities engaged in by case managers. Although this may seem obvious to some, in practice it may be difficult to keep the two separate. Program philosophy, principles, and goals (the term "program concept" will be used hereafter to refer to this combination) should ideally direct the implementation of the program. The program concept is the "blueprint" that will be used by managers to direct the implementation of the program. Because program concept includes a statement of the goals of the program, it is the reference point for determining how closely the program that is eventually developed fits what was planned. Program concept also must contain some direction (in the form of principles or values) concerning how these goals should be met. A program might have a goal of providing drug abuse treatment services to homeless women and children. The program principles may specify further that these services are to be provided in a way that maximizes client input and preference and minimizes any coercive components.

Values and goals are usually articulated by funders and policymakers. For example, program managers within human service organizations take direction from administrative superiors, who in turn answer to a board of directors, a city council, or legislators (figure 1).

Program concept cannot be simply a statement of principles, although principles constitute an important part of the concept. Like a blueprint for a building, the concept must include structural details, including what resources (e.g., staff) will be needed and how they are to be assembled to achieve the final structure. This blueprint must include not only the characteristics of the staff members to be recruited for the case management team, but also a clear description of what kind of activities they will engage in and how they will do so. That is,

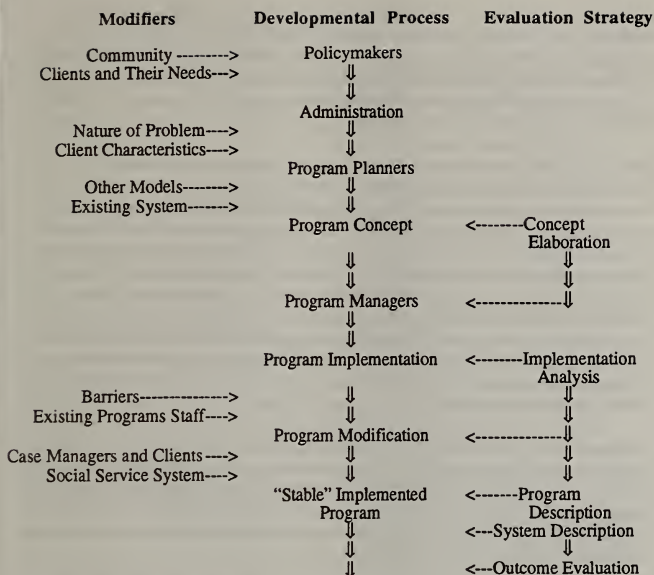


FIGURE 1. *The process of program development, modification, and evaluation*

program concept should be the guide that is used to decide which primary case management functions will be stressed and which additional functions will be used. It should guide the team structure (individual primary caseloads, full-team sharing of caseload, mixed models) as well as the more continuous dimensions of intensity (caseload, visit frequency), scope (broad, narrow), and length (brief, indeterminate). (Functions and dimensions referred to here are discussed at greater length in Willenbring et al. 1991 and Ridgely and Willenbring, this volume.) Program concept, then, is the key factor in program design, and an understanding of the concept is essential for evaluation as well.

Unfortunately, program concept is often too brief or incomplete. A common mistake is to focus on philosophy or goals without articulating the relationship between them and program structure. Another mistake is failing to take into consideration the existing system of care and how the new program will fit into it. A third mistake is failing to articulate how the program as conceptualized is expected to result in the goals desired.

Although it is the role of the program manager to develop the concept, it is the role of the evaluator to determine what the program concept is in the minds of the managers or planners. This includes determining how complex or sophisticated it is and whether it contains both statements of principle and a structural "blueprint" for the team(s) as well as the goals of case management. For experimental or quasi-experimental designs, the evaluator must clearly have in mind the program concepts of all comparison interventions. Only through understanding the program concept can the evaluator determine (1) the similarity of the program implemented to the one planned and (2) the success of the program in achieving its goals. For experimental designs, a related issue is whether the comparison interventions differed and, if so, whether they differed in the ways planned.

Evaluators can often help program planners and managers to articulate their programs more clearly, especially if the evaluators are included in the planning process and if they are aware of what questions to ask. Filling out a table similar to table 1 (discussed below) may prove beneficial. For a more complete discussion of classification of case management models, the reader is referred to Willenbring and colleagues (1991).

Elsewhere in this volume, Ridgely and Willenbring emphasize the importance of describing and measuring the program as implemented, specifying the activities engaged in by the case managers, without reference to program philosophy or concept. The foregoing discussion of program concept might be taken to suggest that such measurement could be supplanted by explication of the program philosophy. This should not be the case, however, because a good program concept includes reference to the structure and function of the program as well as to its goals and principles. Although it is possible to describe a case management program without any knowledge of the program concept, it is not possible to determine program success (i.e., outcome) without reference to the original goals of program development. Therefore, a well-articulated program concept helps both program implementation and evaluation.

The CTCPI Program Concept

The Community Treatment for the Chronic Public Inebriate (CTCPI) project began in 1983 in a subcommittee of the Minneapolis Advisory Committee on Alcohol and Drug Problems. During a 2-year fellowship at the University of Wisconsin, Madison, the author had been exposed to the Program for Assertive Community Treatment/Training in Community Living (PACT/TCL) approach to community treatment of persons with severe and persistent mental disorders (Stein and Test 1980). After moving to Minneapolis, I became involved with the Minneapolis Advisory Committee, and several members of this committee met over a period of 2 years to develop some ideas about adapting the "Madison Model" to treat chronic public inebriates, or skid row alcoholics. In 1985-86, with the financial support of the Minnesota Department of Human Services Chemical Dependency Division, the Minneapolis Mayor's Office, the Minneapolis Police Department, and the Minneapolis Foundation and with the cooperation of the Hennepin County Chemical Health Division, the committee asked the Minnesota Institute on Public Health to study the feasibility of providing case management to public inebriates, using a prepaid capitation model (similar to health maintenance organizations). Service utilization patterns, costs of service, and attitudes and beliefs of a random sample of 43 subjects were examined in this study. The results of the feasibility study were published as "Borrow Me a Quarter" (Neuner and Schultz 1986). The study concluded that the concept of intensive case management for public inebriates was feasible and should be explored further. It was estimated that a 10- to 15-percent reduction in service utilization (a reasonable goal) would offset the cost of case management. A capitation approach to payment was not considered feasible because of the very high and unpredictable costs of service for this population and the lack of an offsetting large group of low-use clients.

The "Borrow Me a Quarter" study formed the basis for application first to the Robert Wood Johnson Foundation and then to NIAAA for funding for a large-scale demonstration project. In the first application, the intent was to compare the efficacy of intensive case management against episodic care only, using a randomized trial design with two groups. For the NIAAA application, two major changes were made in the design of the study. The first concerned eligibility of subjects; the Request for Proposal specified that the target population had to be homeless or imminently homeless persons. In making this change, the extent of homelessness in the public inebriate population was miscalculated as higher than it actually was. This error had the effect of selecting for the most severely disordered subjects and also narrowed the range of clients served. The feasibility study had focused on frequent utilizers of detoxification centers, not all of whom were homeless. Thus, although it was not immediately apparent, this selection change altered the applicability of our model of case management

to the subject population. The second change followed on the first: Under a Health Care for the Homeless Program grant, three case managers were available to start at about the same time as the NIAAA grant, so this group was added as a third comparison group, intermediate-level case management. Funding by NIAAA was granted to the Hennepin County Chemical Health Division under the Stuart B. McKinney Act for research demonstration projects for homeless persons with alcohol and other drug problems in 1987. Funding was initially for a 2-year period; a third year was eventually awarded under a competitive renewal process.

The final CTCPI project was a randomized, controlled trial comparing the effectiveness of three levels of intensity of case management: intensive (ISV) (caseload=12), intermediate (IMD) (caseload=40 to 50), and control (CTL). CTL group members received whatever services were generally available. These typically included an opportunity to talk with a counselor when admitted to the detoxification center and minimal levels of case management if they were receiving economic assistance payments of some sort. In the CTL group, case management, if provided at all, tended to be episodic, brief, and minimal in scope. Effectiveness was defined as a reduction in service utilization and costs and an improvement in quality of life. Subjects consisted of 260 male public inebriates; public inebriety was defined as having 15 or more admissions to the Hennepin County Alcohol Receiving Center, being unemployed and/or on public welfare, and having a history of failure to respond to conventional alcohol and other drug treatment. Subjects also had to meet the Federal definition of homeless or imminently homeless.

Both the ISV and IMD case management programs were designed to be comprehensive in scope, tolerant of continued drinking, focused on providing subsistence needs and improving overall function, and indeterminate in length. The ISV program, modeled after the PACT/TCL case management model, was also designed to be street-oriented, assertive case management. Case managers were encouraged to be creative in providing whatever they felt their clients needed and to spend considerable time in the field with clients. The IMD group used the standard Hennepin County guidelines for case management, which emphasized comprehensive scope, coordinating care, providing care in the least restrictive way possible, and maximizing client input and choice. The IMD group, although doing some work in the field, was by necessity and design meant to be more office based than the ISV group. Because American Indians constituted a significant proportion of chronic public inebriates in Hennepin County, both programs made an effort to hire American Indian case managers. Case managers generally were trained at the bachelor's degree level or somewhat less; some had social work backgrounds; and others were trained as chemical dependency counselors. All case manager positions were entry-level

TABLE 1. *Characteristics of comparison groups in the CTCPI program*

Characteristic	ISV	IMD	CTL
Intensity Staff:client ratio	Intense High (1:12)	Moderate Moderate (1:45)	Minimal Low (1:75 to 100, when available)
Typical visit frequency	Daily-weekly	Weekly	Infrequent
Contact time	High (up to several hrs/wk)	Moderate (several hrs/mo)	Low
Scope	Comprehensive	Comprehensive	Narrow
Site	Field oriented	Office based	Specific site and program
Team structure	Modified team	Modified team	Varies
Case manager training	BA or CD certificate	BA	Varies
Duration	Indefinite	Indefinite	Time limited
Availability	M-Sat, day hours, walk-ins	M-F, less open to walk-ins	Varies
Consumer direction	Maximize client input, professional decides	Maximize client input, professional decides	Unknown
Treatment goals	Improve function, reduce morbidity	Improve function, reduce morbidity	Varies
Functions	Primary* plus help with daily living and alcohol/other drug counseling	Primary only	Varies

* Primary functions include outreach, assessment, planning, linkage, monitoring, followup, and client advocacy. Additional possible functions include direct service provision, system advocacy, and so on. See Willenbring and colleagues (1991) for a full discussion of these concepts.

KEY: BA=bachelor's degree; CD=chemical dependency

positions. The ISV program had five case managers and a full-time, master's-level unit supervisor. The IMD program had three case managers and a part-time, master's-level unit supervisor. The three groups are compared and contrasted in table 1.

CTCPI Evaluation Strategy

Once the program concept has been clearly elaborated, the evaluation strategy can be planned. The goal of the process evaluation is to describe the implementation process and the intervention(s); the outcome evaluation determines how well the project met its goals.

Based on the program concept and the overall study design, an evaluation strategy was developed in which the goals were to (1) describe program implementation, including any changes made in the programs during the course of the study; (2) describe and compare the two case management programs implemented both quantitatively and qualitatively; and (3) compare program outcomes. A brief overview of the strategy is shown in table 2 and in the following paragraph. A more detailed discussion then follows.

The initial process evaluation consisted of a quantitative time log for case managers, specifying the client, location, amount, and type(s) of service provided; a significant events daily log for case managers; implementation logs for the principal investigator (PI), evaluation director, and project director; a case study performed by the national evaluation team assembled by NIAAA; quarterly implementation analyses by the evaluation director; and interviews with case managers and unit supervisors by the evaluation director. At the suggestion of NIAAA staff members, an ethnographic component was included in the third-year competitive renewal application. Primary outcome evaluation consisted of examination of agency records regarding detoxification center use, medical services, economic assistance, use of court services, and costs or charges for such services. Secondary outcome measures included an Addiction Severity Index (ASI) (McLellan et al. 1980) interview every 6 months for the case management groups and an interview by the ethnographer for a subsample of all three groups.

UNDERSTANDING THE PROCESS OF CASE MANAGEMENT

Qualitative Process Measurement

Based on the program concept (the blueprint), a program is implemented or "constructed." For the purpose of describing this development, qualitative methods, such as implementation logs, interviews, and observation, are best

TABLE 2. *Evaluation strategy for the CTCPI project*

Goal	Qualitative Measures	Quantitative Measures
Process Evaluation	Implementation logs (PI, ED, PD) Quarterly implementation reports (ED) Significant events logs (CM) Interviews of CM staff (ED) Observation of CM-client dyad and CM teams (ETH) Interview with clients and CMs (ETH)	Time logs (CM) Structured interviews (ETH)
Outcome Evaluation	Interviews with clients (ETH)	Service agency records of utilization and charges (ED) ASI (CM)

KEY: PI=principal investigator, ED=evaluation director, PD=project director, CM=case manager, ETH=ethnographer, ASI=Addiction Severity Index

(implementation analysis) (Brekke 1990). Such methods should emphasize the process of implementation itself, especially any barriers encountered, responses to these barriers, the effectiveness of the responses, and ways in which the implemented program differed from the original program concept. These techniques will be contrasted below, using specific examples from the CTCPI project.

In CTCPI, implementation logs were to be kept by the PI, evaluation director, and project director and were to reflect the day-to-day experience of program implementation. In practice, it proved difficult to keep the logs. People were not in the habit of keeping logs, and there was no way to build in an external incentive (like tying log completion to evaluations or paychecks). Weekly interviews were easier to obtain (they could be scheduled), and these resulted in regular data collection. Minutes from other regularly scheduled meetings were also useful. Minutes were often written during a meeting (whether with two or several people) by one of the participants and then copied or otherwise shared with others. Finally, the single most useful type of ongoing narrative was a quarterly implementation analysis required for the national evaluation by the funding agency and written by the evaluation director. Based primarily on interview notes and meeting minutes, a draft was shared with the other participants, and their comments were incorporated prior to submission. These quarterly reports were then available for the final implementation analysis at the end of the project.

As noted above, interviews with other project managers were very useful as substitutes for logs kept by each participant. Interviews of case management staff members also proved helpful. First, interviews could determine whether a program concept was shared by members of a team. If so, this "actual" concept could then be contrasted with the original concept, as well as with the "actual" concepts in comparison groups. Second, a working model of a particular case management method could be developed. That is, through the descriptions of each case manager, it could be determined how each approached an individual case and how each manager saw the team working together (or not, as the case might be). These interviews also provided a longitudinal history of various changes that occurred. For example, unit supervisors in both programs were replaced during the project. In both cases, the replacements were experienced by case managers as changing the working model or method in significant ways. Interestingly, both teams experienced the changes as resulting in loss of freedom and creativity in favor of greater bureaucratization. On one team, what had been a disparate group of case managers working more or less individually became a unified team that felt united against the new unit supervisor, who was viewed as enforcing new, "rigid" rules.

The interviews with staff members were supplemented with interviews with clients about services received, including case management. Additional data were collected from both case managers and clients concerning their perceptions of a particular interaction that was also observed by the ethnographer. Structured interview schedules were used to facilitate standard data collection practices and data analysis. These data generally confirmed that the top priorities for both case managers and clients were meeting subsistence needs, particularly shelter (table 3). However, case managers typically saw themselves as providing more services than the clients saw themselves receiving. In the ISV and IMD groups, case managers saw themselves as providing more chemical health services than clients reported receiving. However, ISV case managers saw themselves as providing psychological and social services more often than did IMD case managers. Clients saw themselves receiving these services relatively infrequently from both groups. These data seemed to fit well with interview data from the case managers, suggesting that ISV case managers had spent much more time talking to clients and helping them in the field, especially in the early stages of the project. It is less clear why there is a discrepancy between the perceptions of ISV case managers and clients in terms of what services were provided. It may be that case managers identified certain interactive behaviors as therapeutic (e.g., counseling, social services) but that clients defined services in a more concrete way. Whether the apparent ineffectiveness of this service differential (that is, the fact that the additional ISV services did not appear to yield much change) is related to the client-case manager discrepancy is not clear.

TABLE 3. Assistance received from case manager, by client interview and by case manager interview. Differences nonsignificant by χ^2 analysis unless otherwise noted. (n=20)

Variable	ISV		IMD	
	Client	Case Manager	Client	Case Manager
Shelter				
Yes	13 (65%)	15 (75%)	13 (65%)	11 (55%)
No	7 (35%)	2 (10%)	6 (30%)	5 (30%)
Not applicable, not a problem	0 (0%)	3 (15%)	1 (5%)	3 (15%)
Money				
Yes	11 (55%)	13 (65%)	13 (65%)	13 (65%)
No	6 (30%)	5 (25%)	4 (20%)	1 (5%)
Not applicable, not a problem	3 (15%)	2 (10%)	3 (15%)	6 (30%)
Legal				
Yes	5 (25%)	6 (30%)	5 (25%)	4 (20%)
No	5 (25%)	1 (5%)	6 (30%)	2 (10%)
Not applicable, not a problem	10 (50%)	13 (65%)	9 (45%)	14 (70%)
Physical				
Yes	6 (30%)	9 (45%)	2 (10%)	3 (15%)
No	10 (50%)	6 (30%)	14 (70%)	9 (45%)
Not applicable, not a problem	4 (20%)	5 (25%)	4 (20%)	8 (40%)
Psychological				
Yes	6 (30%)	9 (45%)*	7 (35%)	1 (5%)*
No	9 (45%)	3 (15%)*	8 (40%)	6 (30%)*
Not applicable, not a problem	5 (25%)	8 (40%)*	5 (25%)	13 (65%)*
Chemical				
Yes	5 (25%)	14 (70%)	9 (45%)	12 (60%)
No	15 (75%)	4 (20%)	11 (55%)	6 (30%)
Not applicable, not a problem	0 (0%)	2 (10%)	0 (0%)	2 (10%)
Social				
Yes	6 (30%)	12 (60%)†	2 (10%)	4 (20%)†
No	11 (55%)	3 (15%)†	14 (70%)	3 (15%)†
Not applicable, not a problem	3 (15%)	5 (25%)†	4 (20%)	13 (65%)†

* $\chi^2=8.5$, df=2, p=0.014

† $\chi^2=7.66$, df=2, p=0.023

Although it was expected that Indians and whites would be significantly different in their subsistence adaptation patterns, the interview data did not confirm that expectation (table 4). Meeting subsistence needs appeared to be such a pressing and urgent task that it tended to reduce the influence of other factors that might be important under other circumstances. The ethnic matching of

TABLE 4. *Subsistence adaptation in American Indian and white public inebriates. Unless otherwise indicated, χ^2 analysis is not significant.*

Variable	American Indian (n=25)	White (n=20)
Sources of shelter		
No answer	1 (4%)	0 (0%)
Independent living	14 (56%)	10 (50%)
Shelter or other non-CD placement	8 (32%)	7 (35%)
Chemical health placement	9 (36%)	14 (70%)
With family or friends	13 (52%)	11 (55%)
In detox or other nonsanctioned institution	4 (16%)	7 (35%)
Incarceration	2 (8%)	5 (10%)
Camping out	9 (36%)	8 (40%)
Other (e.g., "carrying the banner")	0 (0%)	3 (15%)
Sources of food		
No answer	6 (24%)	3 (15%)
Drop-in centers (multipurpose sites)	13 (52%)	7 (35%)
Food lines (single-purpose sites)	11 (44%)	9 (45%)
Food shelves	2 (8%)	3 (15%)
Informal strategies (e.g., dumpster)	1 (4%)	4 (20%)
Institutions	2 (8%)	3 (15%)
Sources of money		
No answer	6 (24%)	3 (15%)
Formal sources (e.g., temp labor)	4 (16%)	4 (20%)
Personal sources (e.g., friends, family)	5 (20%)	3 (15%)
Informal sources (e.g., "junking," stealing)	14 (56%)	10 (50%)
Sources for hygiene needs		
Not applicable	19 (76%)	13 (65%)
Formal sources (e.g., drop-in centers)	5 (20%)	6 (30%)
Personal sources (e.g., friends, family)	3 (12%)	1 (5%)
Informal sources (e.g., outdoor bathing, sponge baths)	0 (0%)	3 (15%)
Sources for clothing needs		
Not applicable	11 (44%)	8 (40%)
Free stores	8 (32%)	6 (30%)
Thrift stores	6 (24%)	5 (30%)
Case manager	4 (16%)	3 (15%)
Other (e.g., personal)	1 (4%)	3 (15%)

case manager and client similarly did not appear to be related to response to case management.

The process of client-case manager interaction was chosen as the focus of our interviews, and multiple perspectives were obtained on this process. Through the use of multiple perspectives, the more individual or idiosyncratic observations were separated out, leaving a framework of core observations that were taken to fairly represent the case management methods used in this study. Although it is true that other methods, such as coding of videotapes or audiotapes, might yield more consistent results, it is often difficult in practice to carry out this type of process research. Case management tends to be an imprecise process, involving multiple parties in a complex process over time, that does not lend itself to rigorous process research methods. Besides, use of these other methods does not eliminate the possibility of biased measurement; it merely raises a series of somewhat different questions. One never fully knows whether the true phenomenon is being described. The use of multiple structured or semistructured interviews with different participants in a process is one way to control for observer bias and one that may be more feasible in field research.

Observation of case manager activity is another method that complemented the interviews well. Observation was especially useful in comparing characteristics of the two programs. For example, on the basis of narrative logs and interviews alone, it was not clear that the two case management programs differed in overall atmosphere or in presentation to the clients. There was a concern that the two interventions might not be very different in practice. It was argued that the IMD group might be providing intensive services to only a portion of their clientele, rather than less service to a larger clientele.

Observation showed that the two groups differed in their overall atmosphere. The ISV group, although located on the second floor, maintained an open, walk-in type atmosphere. Coffee was available, and clients who were not severely intoxicated or belligerent were encouraged to stop by, have coffee, and visit. Contacts with clients were more informal and longer, and staff members other than the primary case manager were often involved in these interactions. Observations of case management activity confirmed that considerable time was spent in the field. In the IMD program, on the other hand, staff offices were located behind a closed and locked door marked "Staff Only." Interactions with clients were briefer and more instrumental, and drop-in, informal visits were not encouraged. Much less time was spent in the field.

Observational data thus added new information (e.g., the atmosphere was different between the two programs; more time was spent in the field in the ISV program) as well as validating information obtained in other ways (e.g.,

most interactions were focused on subsistence needs; the representative payee relationship served as the "glue" holding the case manager-client dyad together). Observational data allowed for more confidence in the program descriptions and countered erroneous beliefs by staff members who had personally observed one team but not the other.

It is always difficult to know which of many interactions or behaviors are the important or determining ones in a human process as complex as case management. It is possible, for example, that the information obtained or the contrasts noted were not relevant concerning client outcome. Similarly, there could be important aspects that were overlooked or could not be measured, such as the personality styles of the case managers and clients. These types of problems are always present in some degree but should not be used to justify not attempting to measure the interventions. The use of multiple qualitative measures helps ensure against missing a truly significant factor.

Programs can be designed to be different in certain definable and measurable ways. In this case, ISV was to be more intensive and field oriented, whereas IMD was less intensive and more office based. Qualitative methods of narrative logs, interviews, and observation confirmed that they differed in these ways but suggested a similar focus on meeting subsistence needs. Determining whether the focus was, in fact, similar required a quantitative method, described below. Observation also suggested that the two groups differed in the overall atmosphere of the team milieu, an unexpected difference that occurred as a result of the way these particular teams developed. There was still uncertainty about how much the time spent (intensity) differed.

Another question is whether the presence of an observer alters the phenomenon observed to such a degree as to bias the findings. An ethnographer always must deal with this problem and does so partly by becoming familiar to the participants, as a "fly on the wall." The use of interviews as well as observation helps, because interviews do not take place concurrently with the interaction. Because memory is often selective, however, multiple perspectives are necessary to decrease distortion. Greater consistency of findings across methods gives a basis for more confidence in the findings.

It is often difficult to convince clinical and administrative staffs to fill out logs or questionnaires. Scheduling interviews has the advantage of ensuring completion of the task and fits better with busy clinical schedules. Staff members often have little chance to reflect on their work and usually enjoy the opportunity to discuss it. Methods requiring writing, especially in an ongoing way, simply do not seem to fit well with the way most staff members work. Maintaining written records frequently requires persistent nagging by the

evaluator, which can have a detrimental effect on the quality of the data obtained.

Qualitative methods are particularly helpful in defining some of the dimensional characteristics of case management, that is, in defining how it is carried out. In conjunction with quantitative methods, qualitative methods may help determine characteristics such as intensity of program, qualities of interaction, attitudes toward clients, team functioning, and attitudes toward supervision. Because they tap into the inner experience and thoughts of the participants in a relatively open-ended fashion, they allow for unexpected findings to emerge more readily. In this project, for example, only the qualitative methods were able to discern the differences in atmosphere of the two programs. A variable such as this can potentially be very important in determining outcome, yet it would have been missed if only quantitative methods had been used.

The evaluator is in many ways dependent on the subjects and staff of a case management project to integrate an enormous amount of data and to formulate hypotheses concerning factors influencing effectiveness or its lack. For example, the case managers were virtually unanimous in voicing the opinion that conventional alcohol and other drug counseling techniques were ineffective in this particular sample. Similarly, they all felt that obtaining monetary benefits and becoming the representative payee for clients was very effective. Clients generally agreed. Although these are uncontrolled observations, they are excellent for hypothesis generation and can serve as a basis for more detailed research later. These observations also may prove valuable to others designing similar interventions elsewhere, especially if the findings are broad based and corroborated by other data. Research of this type is difficult and time consuming, and program managers often must make decisions without the benefit of carefully constructed quantitative research. Besides, these models are simply not sophisticated enough to integrate all potential factors simultaneously, and researchers must rely on the human brain to do so. In this way, decisions can be guided by carefully done qualitative research and often much more quickly than is possible with quantitative research.

Open-ended inquiry also lends itself to testing whether a program concept is shared among the staff members. Although other methods are more effective at determining whether such a shared concept leads to a specific program implementation, it is useful to determine independently whether case managers have a common program concept. Sometimes some elements of a program concept are shared and others are not, and determining which elements are shared can be important. Assessing the staff's perceptions of program concept is not sufficient, of course, and must always be accompanied by more direct measurement of case manager activities.

Quantitative Measurement of Case Manager Activities

Time logs offer the easiest method of describing the activities or functions of case managers in quantitative terms. In contrast to qualitative methods, time logs are best at describing the "what" of a case management intervention as opposed to the "how" of qualitative approaches. Some dimensional aspects, such as field orientation, may also be captured with time logs. Logs give a day-by-day account and can be more or less detailed, depending on the specific needs of the project. The fact that case managers fill out the logs themselves is an advantage in that only they know precisely how they spend a day. Time logs also help determine how much service a particular client received and may reveal differences in the way individual case managers work.

On the other hand, case managers may not be willing to specify time spent on some activities (e.g., talking with colleagues or other "down" time) or may pad the clinical service time. Case managers may interpret a category ("assessment" vs. "counseling" vs. "care planning") differently, in spite of repeated instructions. Measures must be taken to prevent double recording, where a mixed activity is logged twice. For example, if a case manager drives a client to a court hearing and talks about the housing situation of the client on the way, the time could be logged as "transporting," "counseling," "housing," or perhaps all three.

Because of these problems, evaluators must attempt to be as clear and simple as possible in creating logging instruments. If at all possible, it is helpful to build in time for instrument development and pilot testing in the field prior to study data collection. Line staff should be included in this process of instrument development whenever possible.

Even when the development of an instrument is done well, however, its use represents a significant burden to case managers. It would be unusual for staff members not to experience some resentment of the paperwork burden in a research demonstration project, even if they strongly believe in its goals. Case managers typically like to be doing something active and often have many competing tasks to do, some of them urgent. Keeping track of their time in an obsessive manner may not be a pleasant task and can significantly distract from pressing clinical duties. Thus, evaluators will do well to compromise on asking for details in favor of obtaining some data with greater accuracy. In our first log (figure 2), case managers were asked to account for their time in increments of 6 minutes (0.1 hour) and to record the client, location of service, and how much time was spent on each activity with that client. This log was used for about 15 months and resulted in the accumulation of some helpful data. However, we discovered over time that we were asking too much of our

staff. It was necessary to collapse categories for purposes of analysis because of overlap and different interpretations among staff members. It was also suspected that some case managers, who had to turn in logs before they could receive their paychecks, were filling them out very quickly and inaccurately.

After working with the case managers over a period of months, we arrived at a compromise (figure 3). The number of categories was reduced, and the requirement of specifying the time on each activity for each client was dropped in favor of specifying the total time per client contact and simply checking off all activities that took place. This compromise worked well, and it seemed to result in improved accuracy for the data being collected.

Qualitative and quantitative methods worked in a complementary fashion in helping to describe the interventions. Integrating the data from observations, interviews, and time logs produced a comprehensive and cohesive picture of each intervention. Based on the first time logs, both programs appeared to be providing a similar quantitative mix of services, and the overall direct service time was about the same as well. However, ISV case managers spent more time in the field, and the total service time per client was much greater in the ISV group. Put a bit differently, ISV and IMD clients received similar service types, but ISV clients received more of them and received more service in the field than did IMD clients. Interview data confirmed these figures, as did observation, suggesting that it was a robust finding.

However, interviews suggested that the ISV program became more like the IMD program in some ways over time. ISV case managers reported that many interventions they tried initially, such as helping clients set up households, teaching them how to shop for subsistence items, and intensive one-to-one counseling, did not seem effective,¹ and they began to de-emphasize them in favor of benefit acquisition, money management, and housing support. These latter activities were also stressed by the IMD program, and the program philosophy espoused by both staffs was similar in stressing tolerance, improving function in whatever way possible, and accepting that not everyone was going to be able to achieve abstinence. Some ISV staff members, perhaps feeling defensive or competitive, even suggested that many of the IMD group's clients were in fact receiving intensive services, because some clients were receiving very few whereas others appeared to be receiving more. The ISV staff members suggested that with the latter clients there might be little difference in outcome between groups.

In this case the observational data concerning the differences in atmosphere proved crucial. Because the case managers were not involved in each others' programs, they were not in a position to compare and contrast them. Thus,

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DAILY ACTIVITY LOG	WHERE SERVICE PROVIDED	DATE	CLIENT NAME/NUMBER	PHONE HRS. (before) FIELD OFFICE	TYPE OF SERVICE	COMMENTS
					Screening/Evaluation	
					Case Planning	
					Service Coordination	
					Coordination with family or sign. other	
					In-home Consultation	
					Referrals	
					Outreach	
					Client Search	
					Data Gathering:	
					FPS	
					M Staff	
					Other agency/prof.	
					Counseling	
					Education	
					Housing Services	
					Sep. Payee	
					Manage Client finances	
					Legal	
					Transport Client	
					Travel (CM only)	
					Other Consultation	
					Miscellaneous	

FIGURE 2. *Daily Activity Log*

Figure 3. Second time log for CTCPI study.

[illegible]

FIGURE 3. CTCPI/HCH Grant Activity Log

interview data alone were misleading. Quantitative data were helpful in determining the range and mean amount of time and type of service per client (which differed significantly across groups) but did not address issues of style. Ethnographic interviews with clients also suggested that the services clients received did not vary much between programs. Ethnographic observation, on the other hand, revealed the differences in atmosphere discussed previously. Observation was also helpful in validating the differences in amount and location of services that were shown by the quantitative logs.

Thus, through a combination of quantitative and qualitative methods, a comprehensive picture of each intervention emerged. Distortions that were present in any one viewpoint were canceled out by other information until only the core stood out. Information confirmed by two or more methods was considered more likely to be valid. Findings consistent across several methods could be considered quite robust. Surprisingly, none of the methods appeared to have any intrinsic overall advantage or to be free from distortion. Perhaps the most common failure of any one method is that it presents a partial picture, and what is not seen may not be known. With multiple methods, missing something important becomes less likely (table 5).

Given the fact that such extensive evaluation is not always possible, the evaluator is left with the dilemma of which method(s) to choose. It might be best to utilize at least one quantitative and one qualitative method if possible. Alternatively, using several methods but in a less intense way may give some reassurance that nothing critical is being missed. For example, a sampling strategy could be used with time logs, or observation could be done for a few brief periods to help inform the interview process. If only one or two methods are used, however, evaluators should be cautious in interpretation of findings. In particular, an evaluation that relies primarily on interviews alone must be considered preliminary.

OUTCOME EVALUATION OF CASE MANAGEMENT IN DRUG ABUSE

Most outcome evaluation is by nature at least semiquantitative. Qualitative methods serve mainly to inform the quantitative findings, which is a useful process, especially in attempting to understand what an intervention consists of, how it works, and the perceptions of staff and clients of the program.

Consumer satisfaction may be measured in part by qualitative methods as well. However, determining whether case management works better than another type of intervention, or which of two case management interventions works better, requires quantitative outcome measurement.

TABLE 5. *Data collection methods in case management research*

Goal	Method	Type	Most Helpful For:	Trouble Spots
Process evaluation	Interviews	Qualitative	• Obtaining participants' viewpoints • Open-ended exploration • Hypothesis generation • Providing guidance to other program managers re: what works • Assessing shared program concept	• May not reflect activities accurately • Distortion and bias possible • May be too speculative • Participants may be unaware of important factors
	Time logs	Quantitative	• Describing and comparing case manager activities • Determining type, quantity, and location of services provided • Statistical comparisons	• Attempt to obtain too much detail may result in loss of validity • Categories may overlap or be interpreted differently by case managers • Numbers may give illusion of validity
Outcome evaluation	Observation	Qualitative	• Comparing and contrasting programs • Determining overall "atmosphere" • Validating time log and interview data	• Observer bias • Presence of observer may alter behavior of participants
	Structured interviews	Semi-quantitative or quantitative	• Obtaining personal information • In-depth interviewing • Psychiatric diagnosis • Statistical comparisons	• Dropout rate high • Instruments not validated or reliable in study population • May not measure relevant variables
	Information systems	Quantitative	• Tracking service utilization • Longitudinal evaluation • Statistical comparisons	• Superficial information • Administrative barriers

This requirement poses significant problems for evaluators. Case management is often utilized to assist persons with one or more complex, difficult conditions, such as substance abuse, mental and physical illnesses, and social problems (e.g., homelessness and domestic abuse). Because case management is a complex intervention, it may be difficult to conceptualize what specific changes in client outcome are expected. Which of so many potential variables should be measured? How should they be measured? Furthermore, many instruments have not been validated in target populations. Especially in substance abuse, lengthy followup periods are necessary to ensure that changes are meaningful, yet this poses the risk of a high dropout rate. These and other technical problems can jeopardize an entire project and leave its findings open to question.

There are several things that can be done to diminish these problems. Once again, a clear conceptualization of the intervention and the target population can help guide the evaluation strategy. What are the precise goals of the program? How is success measured? In substance abuse in particular, outcomes tend to be thought of in dichotomous ways, such as "using" or "sober." However, the reality is much more ambiguous. Success may need to be thought of in more gradual or continuous terms. For example, in the feasibility study for this project, it was estimated that a reduction in service utilization of 10 to 15 percent might fully offset the cost of case management. From a clinical standpoint, a change of 20 percent in key indicators may be thought of as a "rule of thumb" concerning what constitutes minimal evidence of change. Of course, whether 20 percent change makes sense in a particular situation must be considered in view of the degree of error of the method of measurement and the clinical significance of variation in a particular variable. Working to achieve a clear understanding of the intervention process, how it is expected to result in change, and the type and amount of change that is to be considered significant will help all aspects of the project, not only the evaluation.

Is case management expected to result in a reduction in substance use? Or are other aspects of the client's life, such as physical or mental health, nutrition, or housing status, more clearly targeted? It may be important to examine the assumptions about the relationship between substance use and other areas of life function. Although it may seem that improvement in other life areas will follow from a reduction in substance use, these areas may vary independently (McLellan et al. 1981).

Structured Interviews

Once these conceptual issues have been dealt with to some degree, a method of measurement must be chosen. In recent years, there has been a trend to move beyond simple determinations of abstinence from drug use, to more complex outcome determinations relating to multiple areas of life function. In an effort to improve interrater reliability and to make studies more comparable, structured interviews or questionnaires have been advocated (Vuchinich et al. 1988). Although use of these questionnaires has for the most part improved outcome evaluation, there are certain inherent limitations to their use as well as some avoidable pitfalls.

Structured interviews consist of a series of standard questions asked of each participant in a more or less standard way. Answers are generally coded into numerical form, either by asking a question that requires a number for the answer (How many times have you received treatment for drug abuse?) or by creating a multiple-choice type of question (Q: How do you feel today? A: 1. Very well; 2. OK, but not great; 3. Unwell). Examples of structured interviews or questionnaires that are commonly used in drug treatment research include the ASI (McLellan et al. 1980), the Beck Depression Inventory (Beck 1961), and the Symptom Checklist (Derogatis et al. 1974).

The structure imposed by these instruments has indeed improved the overall quality of outcome research in drug abuse. As more studies report results using one of the instruments, there is created a large, more cohesive and comparable literature than was the case without them. Their use also facilitates statistical analysis.

Structured interviews may lead to a false sense of security, however. It becomes very easy for a numerical answer to appear to mean more than it does. With this reification of the numerical answer, statistical analysis can proceed without much awareness of how the results relate to the phenomenon under study. Statistical significance can be mistaken for clinical or social significance. Many instruments that have been developed and validated within one population are later used within others without regard for questions of validity and reliability. For example, when the ASI was used in the study described in this chapter, almost all subjects received extremely low ratings for "Employment/Financial Problems," even though they all were unemployed and many were receiving public welfare. A large proportion literally did not have enough money to live on and scavenged in dumpsters for food. However, the instrument, which was developed as a treatment planning tool for alcohol and other drug treatment centers, was more sensitive to conflict and distress about work, and because our subjects had long since given up hope of working, no

distress was reported. Similarly, low scores on "Family/Social Problems" reflected the fact that, although these subjects had very little social support, they reported little or no conflict or "problems" with others. The instrument could pick up distress about family and social relationships but was not sensitive to the social disengagement of skid row inhabitants.

This is not to say that the ASI is not a good instrument or that it should not be used. To the contrary, its use is often advocated because it provides a relatively easy and clinically relevant way to organize data about subjects with alcohol and other drug dependence. It is important, however, to be aware of its limitations and to consider them during data analysis. The same could be said for many other interviews or questionnaires.

Another vexing problem is the dropout rate. Alcohol and other drug populations are notorious for being hard to find at followup. Case management itself significantly improves followup rates because case managers are determined to know where their clients are, and clients are often motivated to make contact with case managers. This advantage of case management must be taken into account if there are differences between groups in dropout rates. It is tempting to reduce the length of followup because the dropout rate increases with longer followup periods, but this flies in the face of evidence suggesting that minimum followup periods of 1 to 2 years are necessary in alcohol and other drug dependence (Vaillant 1983). Even with a relatively stable population and intensive case management, however, we were able to interview only slightly more than 50 percent of subjects after 2 years. Other homeless demonstration projects had similar problems. Subject payment may improve these rates somewhat, but even then, dropout rates are likely to remain high, especially in poor populations. Another form of structured or semistructured interview involves more ethnographic methods. We created a structured interview for our investigation of resource networks in homeless inebriates and also used structured interviews to examine the process of case management. The structured interviews were embedded in an ethnographic participant observation study, however, and as often as not, participant observation was the more useful approach. At the same time, the use of interviews did allow more direct comparison of responses from the two case management groups, including some statistical analysis. Construction of the interviews also stimulated the study group to focus more clearly on the type of information desired and offset potential biases in the observer.

Service Utilization and Information Systems

An alternative to structured interviews has emerged with the development of computerized data storage. It is now possible to track an individual's use of

services within a service area or system over time. Data on the number of contacts, agencies involved, billings, diagnoses, and service time provided may be readily retrievable. Because these services, such as those that supply subsistence resources or medical care, often are essential to the clients, there may be less loss of contact with clients over time (that is, fewer dropouts). In the CTCPI study, the dropout rate over 2 years was only 5.5 percent by this method, compared with 10 times that with structured interviews and case management. Furthermore, many agencies now operate in such a way that a client cannot receive services unless an entry is made in the information services database. It also becomes possible to track different patterns of service utilization as well as use of one agency or service.

These advantages are offset by several disadvantages. The information available is often superficial, consisting of those data elements most useful to system managers for tracking workload and submitting billings to a funding agency. Demographic information, primary problem or diagnosis, and type and extent of services provided are typical elements included in an information system. Although this information can prove useful, it is limited and most often does not include ratings of function or clinical history. Thus, data from the information system are most useful if system utilization itself is a relevant outcome variable (which was the case in the CTCPI study). System utilization may also be used as a somewhat distant surrogate for severity of problems, assuming that greater utilization results from more severe problems. Of course, increased utilization may result from case management, reduction of barriers, improved access, or greater recognition by the client as well. Nevertheless, the dropout problem with interviews is so difficult that it may be better to obtain fewer data more completely and reliably.

However, there are other barriers even to this use of information systems. Although it is possible to overcome these barriers, given enough time, it can be a taxing process. Barriers may be both intentional and inadvertent. Intentional barriers to this information are constructed in response to data privacy issues. Alcohol and other drug and human immunodeficiency virus information, in particular, is closely guarded against unauthorized disclosure. This problem can be addressed by obtaining the appropriate release forms from subjects, but this is not always possible.

There are often barriers constructed against disclosure across bureaucratic boundaries as well, even within the same overall organization. For example, information systems in place in a public hospital may be different from those in the mental health services area. Some of these barriers are intentional and pertain to data privacy. Access to data is restricted to those with a bona fide need to know. Other barriers result from the way the information systems are

structured, where data sets, hardware, and software may be incompatible. For example, there may even be a different unique identifier (an identifier, such as Social Security number, that applies for only one individual) for a particular client in different agencies.

Another bureaucratic barrier is the difficulty of obtaining data from an existing set, particularly from a set of data elements that are not routinely collated and analyzed, or if data on a particular subset of agency clients are wanted. It may be necessary to create a program to do this, which can be a time-consuming process. Research projects (especially someone else's) typically do not have a high priority on staff time in service agencies, and the budget constraints of recent years have exacerbated this problem.

More mundane bureaucratic barriers may prove to be some of the hardest to overcome. Turf issues, petty infighting, and bureaucratic sloth all take their toll and can be exacerbated by envy evoked when a new demonstration project displaces employees who have thanklessly toiled in the trenches for years. Unforeseen problems may arise that are due to "history," that is, compensation for debts from old favors or defeats in old battles within the organization.

All these barriers taken together can be daunting and may stall the most competent evaluation. Thus, it is important to anticipate and remove as many as possible prior to initiating the project. Administrative support at all levels is often required to move the project along. Embarking on a new project should not be rushed if the administrative support staff is ambivalent or lacks enthusiasm. However, given enough time and strong administrative support, barriers can be overcome. Moreover, the result may be worth the effort, because it may yield data of excellent quality with a very low dropout rate.

CONCLUSIONS

There is a significant need for evaluation of case management applications in alcohol and other drug treatment as well as in other settings. Yet, the obstacles to conducting and evaluating demonstration projects are daunting and may discourage both program managers and evaluators from embarking on new ventures. This is unfortunate, because it is possible to carry out an excellent evaluation by simply following some careful steps. The first requirement is to establish clarity concerning the aims of a particular project and how case management is expected to result in the desired outcome. Evaluators can assist managers in the process of clarification of program concept, which helps ensure the success of both program development and evaluation. Once the program concept is clear, the evaluation process can proceed from the questions that arise concerning program process and outcome.

It is essential to measure both the nature of the intervention (process evaluation) and its effectiveness (outcome evaluation). Whenever possible, multiple qualitative and quantitative methods should be used. Use of multiple methods reduces the chances for biased conclusions based on distorted data on the one hand or missing a critical factor on the other. When resources or time is limited, the use of one qualitative and one quantitative method is recommended, using a sampling strategy if necessary.

Given some good administrative support within the service agency, persistence, and attention to detail, evaluation of case management programs can help future program planners construct more finely tuned and effective programs.

NOTE

1. This was one example of how the original model did not fit with the study population. As mentioned earlier, this resulted from the change in selection to include only homeless individuals, which resulted in a more impaired and homogeneous population than that originally planned.

REFERENCES

- Beck, A.T.; Ward, C.H.; Mendelson, M.; and Erbaugh, J. An inventory for measuring depression. *Arch Gen Psychiatry* 4:561-571, 1961.
- Brekke, J. Program implementation analysis. In: Morrissey, J., and Dennis, D., eds. *Homelessness and Mental Illness: Toward the Next Generation of Research Studies. Proceedings of an NIMH-Sponsored Conference*. Rockville, MD: National Institute of Mental Health, Office of Programs for the Homeless Mentally Ill, 1990.
- Derogatis, L.; Lipman, R.; and Rickels, K. The Hopkins Symptom Checklist (HSCL)—A self report symptom inventory. *Behav Sci* 19:1-16, 1974.
- McLellan, A.; Luborsky, L.; O'Brien, C.; and Woody, G. An improved evaluation instrument for substance abuse patients: The Addiction Severity Index *J Nerv Ment Dis* 168:26-33, 1980.
- McLellan, A.; Luborsky, L.; Woody, G.; and O'Brien, C. Are the addiction-related problems of substance abusers really related? *J Nerv Ment Dis* 169:232-239, 1981.
- Neuner, R., and Schultz, D. *Borrow Me a Quarter: A Study of the Feasibility of the Prepaid Case-Management System for the Chronic Recidivist Alcoholic*. St. Paul, MN: The Minnesota Institute of Public Health, 1986.
- Stein, L.I., and Test, M.A. Alternative to mental hospital treatment. I: Conceptual model, treatment program, and clinical evaluation. *Arch Gen Psychiatry* 37:392-397, 1980.

- Vaillant, G. *The Natural History of Alcoholism*. Cambridge, MA: Harvard University Press, 1983.
- Vuchinich, R.V.; Tucker, J.A.; and Harllee, L.M. Behavioral assessment. In: Donovan, D.M., and Marlatt, A.G., eds. *Assessment of Addictive Behaviors*. New York: Guilford, 1988.
- Willenbring, M.L.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. National Institute on Alcohol Abuse and Alcoholism. DHHS Pub. No. (ADM)91-1766. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991.

ACKNOWLEDGMENT

This chapter was prepared with support from NIAAA grant #1, RI AA-07930-01.

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Case Management Systems Represented in the NIDA-Supported "Perinatal-20" Treatment Research Demonstration Projects

Elizabeth R. Rahdert

INTRODUCTION

Identifying effective strategies for enlisting and retaining drug-abusing women of childbearing age in treatment continues to be a difficult problem facing this Nation's health care service providers (Lewis and Phelan 1992). Currently, case management (CM) systems offer promise in that they include functional components that are designed to facilitate a treatment program's chief aims, that is, to enlist and retain addicted women for a sufficient amount of time to see beneficial change (Finnegan et al. 1991). Yet with rising national health care costs (Rice et al. 1991), CM must also be cost-efficient. To determine whether a program's CM strategies are effective and cost-efficient requires that a program objectively define those functional components that support its clinically relevant enlistment and maintenance activities. Furthermore, the program must define those components in specific analytic units such that the cost to deliver all components of an effective CM system can be calculated.

Collaborative efforts on the part of the "Perinatal-20" offer one such opportunity to examine both clinical effectiveness and delivery costs. Perinatal-20 refers to a grant program comprising 20 treatment research demonstration projects, each supported for up to 5 years by the National Institute on Drug Abuse. Most are "comprehensive" by design; that is, they offer a broad array of therapeutic and adjunct services on a long-term basis to women of childbearing age, their children, and other members of the family.

As a result of many hours of collaboration among staff members from each of the Perinatal-20 projects, a standardized program-descriptive checklist was developed that each project can use to identify and adequately characterize all of the clinically meaningful elements in its treatment program. In turn, this checklist can be used to isolate, then evaluate, each of those clinical elements,

singly or in combination with other program components. Because most of the Perinatal-20 projects include CM, with each system somewhat different, various CM models or particular CM components can be examined in terms of effectiveness and perhaps in terms of delivery costs. Ultimately, the degree of cost-effectiveness and cost-efficiency for various forms of case management can be critically evaluated in subsequent studies.

DEVELOPMENT AND STRUCTURE OF THE PERINATAL-20

Ten of the studies began in fall 1989 and 10 more by the end of September 1990 (appendix); thus, results are not yet available. At the outset, it was apparent that each of these 20 research projects had a similar target population; that is, their subjects were drug-abusing women who were pregnant, postpartum, or qualified for inclusion because they were women of childbearing age. Each project was designed to critically evaluate a comprehensive therapeutic program or a particular aspect of treatment. The primary emphasis was on determining the effectiveness of treatment for women, but considerable attention also was given to identifying the effects of that treatment on the women's children. None of the projects had the determination of cost as a major research objective, although many evolved procedures for collecting cost-related data within their research protocols.

Although each Perinatal-20 project has numerous unique features, the similarity among the 20 projects in terms of their target populations, core treatment/ancillary service elements, specific research questions, and clinical research measures was striking. To derive the greatest benefit from that degree of commonality, staff members from all 20 projects met to discuss ways in which they could cooperate and collaborate. Their efforts resulted in the creation of three descriptive tools: (1) a list of state-of-the-art measures that each project could choose to collect the subject data; (2) a standardized descriptive checklist, which all projects would use, that defined program and service unit characteristics deemed to have clinical significance and properties appropriate for assigning a cost to deliver; and (3) an operationally defined method of reporting service utilization that all projects would use.

TYPES OF DATA COLLECTED BY THE PERINATAL-20

A distinction was made between data that describe the subjects (whether measures of change or status), data that characterize the treatment program, and data that summarize how much of the program was received (i.e., "utilized") by the subjects. Clarifying what is meant by each type of data allows constructs such as "retention-in-treatment," "incremental changes during treatment," and

"treatment outcome predictors" to be identified and analyzed and findings to be interpreted with less ambiguity than often occurs when evaluating complex therapeutic programs. In addition, the extent to which two or more Perinatal-20 projects utilize the same (not just similar) measures provides the opportunity for them to compare results. Projects also can combine their data to address questions that no one project can address because of insufficient sample size and limited diversity of subject pool.

Subject Data

Data will be collected on all women, children, and other family members enrolled in the study. These include:

- Data collected at *pretreatment* intake (e.g., age, gender [in regard to offspring and relatives], race/ethnicity, marital status, parental status [i.e., maternal, paternal], employment status, educational level, physical and mental health status, social functioning indicators, housing and other environmental information)
- Data collected at one or more times *during treatment*
- Data collected at the time of *treatment termination* and/or at specified points in time during *posttreatment followup*

Program and Service Unit Characteristics

This type of "data" will be collected when the study begins and can be revised at any point thereafter if clinically significant changes are made. All information will be organized under one of five major descriptive headings:

- *Facility/physical environment* in which the treatment takes place, differentiating among home-based, residential, hospital-based (inpatient and outpatient), or community agency-based settings.
- Therapeutic modalities/related services that constitute the project's comprehensive therapeutic "program." For the Perinatal-20 projects, modalities and services were categorized under services for the mother; for the neonate/infant/developing child; or for the mother *with* someone else such as her child, husband/male companion, relative, or other women.
- *Prescribed/optimal time-in-treatment* such as a 28-day or a 3-, 6-, 12-, or 18-month program; open-ended/flexible.

- *Staff characteristics* that include staff caseload, staff:client ratio, staff contact hours, and rate of staff turnover; professional staff qualifications related to training and licensure; staff characteristics such as gender and racial/ethnic composition.
- *Program management characteristics* such as maximum program capacity, policies related to admission and discharge, and all the functions that characterize or are associated with a CM system. These include (1) case finding and outreach activities, (2) screening and diagnostic assessment, (3) service planning, (4) linking and coordinating services with referral sources, (5) monitoring service delivery and utilization, and (6) advocating for disadvantaged individuals and groups.

Program and Service Utilization Data

Each project will report the number of subjects who participated in or utilized specific treatment-related services at specified points in time.

PERINATAL-20 SUBJECTS

The characteristics of women who are already enrolled in the Perinatal-20 projects, as of December 1991, are presented in the list below. Although this information describes only a fraction of the women who will enter treatment at these research sites, the data provide an indication of the type of population that is and will be served by the 20 projects.

- Average age: 27 to 28 years old for adult programs, 16 to 17 years old for the three programs that admit teenagers
- Maternal status: Pregnant, postpartum, or between pregnancies, depending on the particular program
- Marital status: 80 to 90 percent single, which includes never married, divorced, and separated
- Education: 75 percent with 11th grade education or less
- Employment: 70 percent unemployed
- Drug use: Polydrug use, including alcohol and tobacco, with cocaine the primary drug of abuse

CASE MANAGEMENT REPRESENTED IN THE PERINATAL-20

Overview

The purpose of making some form of CM an integral part of the Perinatal-20 projects was twofold. First, clinical staff members thought that CM would enable them to more efficiently coordinate all aspects of their complex, comprehensive programs, thereby making treatment and related services more accessible to the women. Second, the staff thought that, by having easy access to a wide range of services, an adequate number of women would enroll and remain in the study as "subjects."

As these Perinatal-20 research projects continue to collect subject, program, and service utilization data, they will be able to determine the degree of effectiveness of treatment for specific groups of women, children, and other family members. Some of the projects also will be able to calculate the related costs as they pertain to their particular CM system. Then, to the extent two or more projects collect data using the same, not just similar, collection measures, comparisons across CM systems can be made. However, it is acknowledged that most of the Perinatal-20 projects will encounter problems in conducting their treatment and CM research. Even in the first year of operation, each project has encountered difficulties not unlike those involved in conducting evaluation research by many others in this particular health care field (Kilbey and Asghar 1992).

The following are examples of functional components usually associated with traditional CM systems that are incorporated into one of the Perinatal-20 projects. Each was selected because it appeared to offer an interesting feature associated with a particular CM system. Each was included in the CM system to reduce a barrier to providing adequate, appropriate, and sufficient treatment. How successful the project will be toward meeting that goal remains to be seen.

Case Finding and Outreach Activities

The Howard/Beckwith UCLA medical school project predominantly serves African-American women and their infants. CM includes a home visitor who makes biweekly outreach visits. Vans, carrying an outreach worker and van driver, pick up mothers and their children to transport them to the clinic-based portion of the program. Clinical staff members periodically go to the home to conduct home-based assessments. There is an emphasis on home visits and provision of safe, convenient transportation to reduce the high number of missed appointments. Unfortunately, the violence that pervades some of the neighborhoods where the women live often prohibits entry, thereby making this mode of outreach to some of the women difficult, if not impossible.

Stark's King County MOM's project serves African-American and white adult and adolescent women and their children. Outreach teams go out as pairs, each made up of a public health nurse from Seattle's health department and a social worker from the county's public assistance office. Each team can then respond to a wide array of problems, both medical and social-environmental, when they contact the women in their homes. The team helps to locate women when they move and ensures that these mothers have transportation to and from their scheduled medical appointments.

Screening and Diagnostic Assessment

Hall's San Diego Project PALS (serving Hispanics, African-American, and white adolescents), *Field's Miami project* (serving Hispanic, African-American, and white adolescents), and *Stark's King County MOM's project* serve pregnant and parenting teenage women. Each project is using the Problem-Oriented Screening Instrument for Teenagers (English- and Spanish-language versions) and selected diagnostic measures from the Comprehensive Assessment Battery, both of which are part of the Adolescent Assessment/Referral System (Rahdert 1991). Case managers from each project use the information obtained from these assessment procedures to determine which services the adolescents should receive in addition to medical and drug treatment.

Drucker's Montefiore Medical Center project predominantly serves African-American women and their children and families. This project conducts an in-depth assessment on the women and many members of their families. To accomplish this, the data-gathering instruments include an elaborate kinchart-sociogram that aids in the identification of kin, friends, neighbors, drug-using associates, and service providers (Pivnick 1991); a questionnaire that gathers detailed information on the children, child welfare and foster care involvement, other household members, and sexual partners; and a lifetime residence history. Case managers use this information to identify, then involve in treatment, as many family members as possible.

Service Planning

Schnoll's Richmond, VA, project and *Kaltenbach's Philadelphia project* include residential treatment and an outpatient clinic component. Both projects predominantly serve African-American women and their children. Both conduct a comprehensive assessment of all women and their children who enter treatment. Based on results, treatment plans are tailored to meet the individual needs of each woman and her child(ren). Services that are considered include individual, peer group, and family counseling; social skills training; parenting classes and household management; legal services;

education and literacy training; vocational and employment training; meals; and transportation. In addition, women and their children can be referred for appropriate medical care and drug abuse treatment.

Linking and Coordinating Services With Referral Sources

Strantz's Los Angeles project predominantly serves African-American women and their children. The treatment site is the Uhuru Family Center, a community-based provider (in contrast to hospital-based), defined as any noninstitutional provider located in the community or neighborhood where its user population resides. CM staff members from the Uhuru Family Center initiate, coordinate, and maintain functional linkages with appropriate health care services in medical facilities and social service agencies.

Brown's Boston City Hospital project primarily serves African-American women and their children. The treatment site is a hospital-based pediatric clinic (in contrast to a community-based service provider). Thus, CM staff members from the hospital initiate, coordinate, and maintain the functional linkages with social service agencies and a neighborhood community center that houses some of the counseling services. In addition, the CM staff helps coordinate medical services, such as psychiatric and obstetrical care, within the hospital so that referrals can be made and appointment scheduling can run smoothly.

Monitoring Service Delivery and Utilization

Mullen's AMORE project at Amity in Tucson serves white, African-American, Hispanic, and Native American women and their children. Because Amity is a residential therapeutic community, all elements of the AMORE project are defined, monitored, and evaluated in terms of the treatment process. This includes monitoring attendance at all meetings, participation in educational and vocational training, and appointments kept at needed health care services.

McCaul's project at the Johns Hopkins Medical Center in Baltimore mostly serves African-American women. As one part of the CM system, a behavioral token economy system was established to encourage and monitor women's treatment participation and retention in the drug program. Daily attendance in treatment activities is recorded, as are the results from the weekly, clinic-wide random urinalysis drug screening.

Alemi's Cleveland project is a telephone-assisted CM system (Alemi et al., this volume). Among the many functions of this computerized, telephone-assisted CM system is the automatic maintenance of complete service utilization records.

Advocating for Disadvantaged Individuals and Groups

Stark's King County MOM's project formed a "community committee" consisting of health, social services, recreational, religious, educational, and neighborhood representatives. Committee members work with outreach staff members, assisting them with locating and/or providing safe housing and activities for the women who have completed residential treatment and are returning to the community. The CM team, in turn, makes numerous presentations to greater Seattle community groups (e.g., Department of Youth Services, Washington School Directors Association, Head Start Coordinating Council, Washington State Adoption Council, Seattle Street Outreach Services) to facilitate appropriate referrals into and out of the program.

Coletti's Operation PAR project in St. Petersburg, FL, is, in part, the product of extraordinary advocacy efforts at the Federal, State, county, city, and neighborhood levels, where continued support has been received for obtaining the resources to serve the multiple needs of the disadvantaged mothers and their children and families.

CONCLUSION

The initial work of the Perinatal-20 projects appears to offer the opportunity to address questions of effectiveness as they relate to implementing one or more functional components of a CM system. By collecting a common set of operationally defined subject, program and service, and service utilization data, these projects may pool their data or make valid comparisons. Such options will allow the Perinatal-20 to critically examine each CM functional component in terms of its contribution to enlisting and retaining addicted women in treatment. To the extent that delivery costs can be assigned, their cost-effectiveness and cost-efficiency might also be determined.

REFERENCES

- Finnegan, L.P.; Hagen, T.; and Kaltenbach, K.A. Scientific foundation of clinical practice: Opiate use in pregnant women. *Bull N Y Acad Med* 67(3):223-239, 1991.
- Kilbey, M.M., and Asghar, K., eds. *Methodological Issues in Epidemiological, Prevention, and Treatment Research on Drug-Exposed Women and Their Children*. National Institute on Drug Abuse Research Monograph 117. DHHS Pub. No. (ADM)92-1881. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1992.
- Lewis, B.E., and Phelan, A. Health maintenance organizations and the treatment of substance abuse. *J Ambul Care Manag* 15(1):56-67, 1992.

- Pivnick, A. "Kincharts-Sociograms: An Anthropological Method for Describing the Personal Social Networks of Drug Using Persons." Presentation at Perinatal-20 Workgroup Meeting, Bethesda, MD, May 1991.
- Rahdert, E.R., ed. *The Adolescent Assessment/Referral System Manual*. DHHS Pub. No. (ADM)91-1735. Rockville, MD: National Institute on Drug Abuse, 1991.
- Rice, D.P.; Kelman, S.; and Miller, L.S. Economic costs of drug abuse. In: Cartwright, W.S., and Kaple, J.M., eds. *Economic Costs, Cost-Effectiveness, Financing, and Community-Based Drug Treatment*. National Institute on Drug Abuse Research Monograph 113. DHHS Pub. No. (ADM)91-1823. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991. pp. 10-32.

ACKNOWLEDGMENT

Information in this chapter was drawn from the cumulative joint efforts of and research progress reports from the Perinatal-20 treatment research demonstration projects.

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Case Management: A Telecommunication Practice Model

Farrokh Alemi, Richard C. Stephens, and John Butts

INTRODUCTION

Numerous studies have shown that computers could reduce the cost of health care, reduce variability in the quality of services, and increase access to care, but because computers have not been widely available, their demonstrated promise has not been fully realized. However, recently, computer technology has changed. Because computers now can play recorded messages, these machines can be accessed through any touch-tone telephone. This has created vast opportunities for revolutionary changes in the delivery of health care.

Most people are familiar with a telephone. Voice-interactive, or talking, computers enable one to call a computer, listen to its questions, and answer the questions by pressing numbers on the telephone pad. Sometimes the computer questions are open ended, in which case, respondents' answers are recorded for later transcription.

Although talking computers can affect many aspects of the health delivery system, this chapter focuses on their potential impact on case management. Case management is a major component of the fragmented health delivery system. It also has been proposed as a method of saving money and improving the quality of and the accessibility to care. The authors believe that telecommunications can radically improve the productivity of case managers.

Recently, the authors designed a series of aids that increase the efficiency of case management, and in February 1992, we started collecting data to evaluate their effectiveness. This chapter reviews these aids and explains why we expect them to make a difference in the productivity of case managers.

EMPOWERING PATIENTS

The first thing one can do to improve the productivity of case managers is to reduce the demand for their services. This could be done by empowering patients to manage their own affairs. To this end, one needs not only to educate the patients but also to reassure them when they decide on a course of action. Two of our aids, described below, are designed to help patients manage their own affairs.

Community Health Rap

Many patients need to have specific health- and service-related questions answered before they can manage their own care. Many organizations have started programs that answer patients' questions. For example, Kaiser Permanente operates a Nurse-Advice telephone system. Many hospitals operate Ask-A-Nurse telephone programs. These programs have three disadvantages. First, they require the health professional to wait for the patient's call, a waste of the health professional's time. Second, they may not provide access to the most appropriate health care professional but to a usually less expensive and less qualified substitute. Third, these programs do not reach patients who have no questions or believe that they are already well informed. The Community Health Rap overcomes these difficulties. It records both the patient's questions and the health professional's answers. Thus, the health professionals do not need to wait for a call; they can answer recorded questions at their convenience. Second, because it takes a short time to answer recorded questions, physicians can answer the questions without major time commitments. Third, anyone who calls the Community Health Rap telephone line can hear answers to questions left by others, similar to listening to a talk show. Thus, even individuals who have no questions can be exposed to health education.

Telephone Support Groups

No matter how well informed patients are, most need the reassurance of talking to others who have been in similar situations, who can demystify the health care system, and who can provide emotional and social support when things are not going well. In short, patients need social support groups. Studies show that face-to-face group support (Bauman and James 1990) and computer networks (Brennan et al. 1991a, 1991b) are effective not only in providing information and support to patients but also in changing patients' visits to clinicians. However, face-to-face support groups are difficult to organize because many patients find travel difficult and some patients prefer to remain anonymous. Computer-networked support groups are difficult to organize because most

patients do not have computers. In contrast, a telephone support group enables patients to participate in group discussions from their homes without revealing their identity. Patients obtain a time-dependent password from the computer or their provider. At the specified time, patients call a telephone switchboard, which then connects all patients calling with the same password to a telephone conference.

CARE COORDINATION

Another step in reducing the demand on case managers is to ensure that providers coordinate their care with each other without the help of a case manager. Traditionally, providers have coordinated care through the medical record. However, this option has become less and less useful because multiple organizations, with various medical records, are now caring for the same patient. Two of the authors' systems are designed to help providers coordinate their care without resorting to case management.

Care Mail

In complex organizations and when care is provided across organizations, a provider of care seldom knows who else is caring for his or her patient. Thus, providers are unable to transfer information to their partners in care. The Care Mail system solves this problem by serving as a relational voice mailbox: One can leave a message for someone who has a particular relationship to a patient without knowing that person's identity. For example, one can leave mail for social workers treating a patient or for nurses in contact with a patient without knowing who they are or to which organization they belong. The Care Mail system can also be used by patients to reach their providers without knowing the appropriate names or telephone numbers. The computer collects messages and delivers them to the appropriate parties by calling them on various schedules at preferred times.

Shared Progress Notes

As mentioned earlier, one reason patient care is not coordinated is that the patient's medical record often is not available. There are many reasons for this. The record may be in use by another provider; it may be in transit from or to the record room; or it may be kept at another institution. Some investigators have suggested that computers can solve this problem; unfortunately, entering the data into a computer often lags behind by several weeks, making such records less useful. Shared Progress Notes is an alternative that avoids the pitfalls of both paper and computerized medical records. Providers dictate their notes about the patient into the telephone. These dictations are recorded by the

system and are available on a last-in/first-out basis to other providers. In addition, when more than three notes are entered, a health professional listens to the notes and updates a summary note about the patient. Notes are also transcribed and sent back for inclusion in the patient's paper record, so that providers do not need to update records twice. Transcriptions can be searched by key word to find specific notes. Providers from other institutions can obtain access to the information through a telephone call, reducing the waiting time for the transfer of records. The advantages are many: Voice entry is easier than writing; transcribed notes are easier to read than handwritten notes; information on the patient is immediately available without access to a paper record; information entry into the computer is not lagged; transcription can be searched by key words; and information can easily be transferred to people outside the institution.

PRODUCTIVITY TOOLS

Finally, despite the informed and motivated patients who manage their own affairs and despite the providers who on their own accord share information with their care partners, there is always a group of patients and providers who can be helped by case management. The question then is how to help case managers become more productive, more capable of spending time with patients, and less involved with the mundane tasks of reaching people and keeping records. To this end, the authors have designed the aids described below.

Voice Mailbox for Patients

One of the most important and easiest aids is a voice mailbox for every patient. Such mailboxes enable providers and case managers to record messages for their patients. A voice mailbox reduces the difficulty of reaching patients in the community: The case manager leaves a message, and the computer takes over the difficult and frustrating task of finding the individual and delivering the message.

Obviously, some patients, such as drug addicts, may not have telephones. Among pregnant drug-abusing women on Medicaid, an unpublished survey showed that 50 percent do not have telephones; some of these patients were homeless (R. Kleisman, personal communication, September 1991). The voice mailbox does not require that patients have their own telephones. Homeless patients and patients without a telephone can call a toll-free number from any public telephone and pick up their messages. A voice mailbox is useful for these patients in their everyday lives. Despite rapid changes in residence and telephone access, the voice mailbox is a constant aspect of their lives and helps them connect to their community.

Friends, family members, and potential employers of homeless patients can reach them through the system, and a voice mailbox is useful for maintaining contact between the provider and the patient.

Assessment

A major portion of a case manager's time is spent on filling out forms needed for assessing patients. One way to improve the productivity of case managers is to help them assess patients more efficiently. The authors have developed a system for assessing patients over the telephone at regular intervals. The system can be modified to assess various topics. We are in the process of applying the assessment system to two topics: assessment for early detection of labor and assessment of relapse into drug use.

Early Labor Detection. If onset of labor can be detected early, then labor can be delayed and the probability of premature infants can be reduced. For some time, nurse case managers have regularly called patients at high risk for premature labor, asked them about their conditions, and advised them on a proper course of action. Others have attempted to estimate the onset of labor through devices that a pregnant woman can wear around her waist. Both approaches are expensive. An alternative is needed that is as effective but less costly. Early Labor Detection is a computer program that calls high-risk patients on a periodic basis and asks them a series of questions posed by a panel of four obstetric/gynecologic physicians. Based on the answers to these questions, the system predicts whether the patient is in labor. If the patient is in labor, the system pages the attending physician and reports its findings. The advantage of the system is its rapid data collection and notification and low operation cost.

Relapse Prevention Assessment. The majority of patients who go through detoxification relapse into drug use within a 3-month period. If a case manager is aware of the patient's potential relapse, there are several steps that he or she can take to prevent such relapse. After detoxification, the system periodically contacts the patients and asks them a series of questions established by a national panel on prevention of drug use. If a patient is at high risk of relapse, the computer faxes a note to the case manager describing the situation. The advantage of the system is that it automatically questions all patients and allows the case manager to focus on the patients most in need. The advantage for the patients is that the questions remind them about their vulnerability to relapse.

The assessment system is a shell that can be applied to other topics besides detection of labor or prevention of relapse. The predictions of any diagnostic system are occasionally wrong. If the system makes a prediction (e.g., patient

is in labor or patient is likely to relapse) and the predictions are wrong, the system has the capability to learn to avoid this error in the future. Thus, case managers can use the system to tailor assessments to their own patient populations.

Service Check

One of the main tasks of case management is to refer the patient to appropriate services. The common practice today is for case managers to maintain a list of available services. When patients need a particular service, they are referred to one or more services on the list. The problem with this system is that it is difficult to update the list, because the availability of services constantly changes. Thus, most case managers leave it up to the patient to find out which services are available, a task that is equally or more difficult for the patient than for the case manager. An alternative is needed that does not take much time and that enables providers to update service availability in real time and without lag, like the airline reservation system.

In the system developed by the authors, the case manager records a patient's service needs and selects a list of agencies that offer those services. The computer then calls the agencies on the list, delivers the patient's description, and asks whether the agency can accommodate the patient. If the agency does not answer the call, the system manages a waiting list for the agency until it calls the system. When an opening is found, the system informs the case manager and removes the patient from the waiting lists of the other providers.

Followup

Case managers spend much time following patients to verify their compliance with treatment or to understand the outcome of care. Providers sometimes hospitalize a patient because they fear that they cannot otherwise monitor the patient. Some providers schedule a clinic visit to check on the patient's progress. Other providers do not follow patients and, therefore, are unaware of the outcomes of their care. Alternatively, providers may ask a case manager to call the patient when other work commitments allow. These methods of followup are disorganized and often fail. Even when they succeed, the data still need to be transferred to computers for analysis, a time-consuming task. The followup system calls the patient, asks one or more questions, collects responses in a database, and sends a recorded message to the case manager if the question is answered contrary to expectations. The intervention differs from the usual practice in that it automatically asks followup questions, collects the data in an organized fashion, and informs the provider in the case of unexpected findings.

Telephone Reminders

Many patients who are referred by the case manager do not show up for their referral visits; as a consequence, they are lost to the system until they develop more serious problems later. As health care becomes more fragmented, more patients are lost in referrals. Telephone Reminders is a system that keeps track of patients and reminds them to go to their appointments. Two days in advance, the system calls to remind them of their scheduled appointment. If the patient cancels the appointment or fails to keep the appointment, the system calls back reminding them to reschedule. Data show that telephone reminders substantially increase the number of patients who keep appointments (Bone et al. 1989).

Most health care professionals rely on various tools to assist in providing care to their patients. The authors are not aware of tools for case managers, except rudimentary ones such as paper and pens. If case managers are expected to make a difference and to be efficient, they must have the proper tools. The tools presented so far are examples of how computers and telephone systems can benefit case managers.

DISCUSSION

Talking computers are a new technology, and consequently, several questions about their effect on the care of patients and the work of providers may be posed. The following concerns are those most commonly raised.

Patient Reaction to Computer Assessment

For the most part, patients and case managers who use the aids described herein do not feel that they are interacting with a computer. For example, the Telephone Support Group does not involve any computer interaction after signing in. The Community Health Rap may seem to callers like several interrelated answering machines but not a computer. Most of the proposed systems involve a short interaction with a computer followed by free-form interaction with others through the computer. The system that is most likely to remind people of computers is the assessment system, in which one interacts for a long time with a menu-driven computer. Naturally, most concerns are raised about the assessment system. Although computers are expected to improve the interview process through standardization, clients may not accept them. The argument is that computerized assessment may anger and frustrate clients who have turned to the health care system in part because they needed human care and attention.

Although computerized telephone assessment is relatively new (Nicholls 1983; Fink 1983; Shangraw 1986), cathode ray tube-based computerized assessment has been around for some time and may indicate how patients may react to our proposed methods. Data show that, contrary to expectations, patients prefer assessment by computer to human clinical assessment, especially when they have to report on such confidential matters as drug use, sexual preferences, or suicidal thoughts (Erdman et al. 1985). Such preferences have been known since the late 1960s and have been demonstrated in too many studies to be considered just an artifact (Evan and Miller 1969; Johnson and Mihal 1973; Kiesler and Sproull 1986; Lucas et al. 1977; Greist and Klein 1980; Carr et al. 1983). One explanation for such preferences is that computer interviews are nonjudgmental, whereas clinicians by their status may be perceived as judgmental. It seems that the computer's mechanical reactions encourage clients to trust it not only with more information but also with more confidential and, surprisingly, more accurate information as well.

For example, Lucas and colleagues (1977) found that a computer that interviewed subjects at an alcohol abuse unit identified significantly more alcohol use than an experienced psychiatrist. Similarly, Angle and coworkers (1978) found that a computer interview revealed twice as many mental health problems as psychiatrists had indicated on patients' records; in hindsight, psychiatrists rated 76 percent of computer-identified problems as critical.

Sawyer and colleagues (1990, 1991) used computer-assisted interviews to administer the Child Behavior Checklist in a child psychiatry service. Before undergoing the interview, parents reported reservations about computer interview, but after completing the interview, they showed more acceptance of the procedure. The scores from the computer interview varied little from scores obtained using a human interviewer.

As another example, Bungey and coworkers (1989) contrasted computer assessment to face-to-face interview and paper-and-pencil questionnaire assessments of drug abuse in a general practice unit. They found that the levels of reported drug use were similar across the three assessment methods. Patients' preferences for the computer increased significantly after use, and most important, those patients who reported illegal drug use—a potentially threatening and sensitive issue—preferred the computer assessment.

The authors' experience with employees and staff of Cleveland State University showed that a computerized telephone appraisal/advice system, which included a segment on drug use, was considered as favorably as clinical assessment and education (Alemi et al. 1992).

In summary, the literature suggests that our proposed strategy of computerized telephone interviews for patients is not only possible but also reasonable.

Computer-Initiated Calls

There is a significant difference between a patient calling a computer and the computer initiating a call to the patient. One concern is whether patients will respond to computer-initiated calls. Most individuals are familiar with computer calls through telephone marketing calls. Because these marketing calls are frustrating, most people believe that, if a computer calls, the person being called will hang up. But consider the circumstances under which people hang up on the computers. These calls often arrive at unwanted times, interrupting other activities; furthermore, they are about topics of little interest to the receiver. Thus, it is not surprising that people hang up on these calls. Suppose it is not a computer calling but a salesperson at your door. When a salesperson shows up at your door in the middle of your dinner and tries to sell you something you do not need, obviously you will tell him or her to go away. Now, consider if he or she comes back every other day. Naturally, you would be frustrated. The point is that the frustration is not with door-to-door salespersons in general but with what is being sold and with the zeal and lack of judgment of this particular salesperson. The same applies to computerized telephone calls.

We have taken several steps to ensure that computer calls are well received. First, no one is called without explicit consent. Thus, our computer calls are all invited and anticipated, whereas telephone marketing calls are made to unsuspecting people. Second, patients specify the times they wish to be called, and computer calls are restricted to these times. Third, patients interacting with the systems can interrupt the call and return at a later time to complete the computerized interview. The system allows the patient to call back at a more convenient time. Fourth, the calls are discreet. If a call is made and the patient has not been reached, there is no identification of the nature of the call; the patient is simply asked to call the system back. Sixth, computer calls are backed up with human operators. If at any time during the computer interview the patient is frustrated, he or she can press the zero key, and the computer will page an operator who within minutes will call the patient back to resolve the problem. Because of these steps, there have been no problems with acceptance. There are 40 individuals now receiving regular computerized telephone calls, and by the end of 1992, there will be 350. There have been no complaints, even though most individuals started to use this system with much apprehension.

Besides the anecdotal evidence provided above, there have been systematic studies of nonresponders to computerized telephone surveys. These studies

show that the major reason for hanging up on these calls is lack of interest in the survey topic rather than the computerized nature of the call. These studies suggest that people are willing to answer computer calls if the calls are on topics that they care about and if the calls are scheduled at convenient times (Havice 1990).

Prevalence of Touch-Tone Telephones

The use of our computers requires access to telephones that make touch-tone sounds; there is no need for an actual touch-tone line. Ohio Bell considers the number of touch-tone telephones in their market area a business secret. We randomly sampled 50 people in the Cleveland White Pages; 75 percent had touch-tone telephones. These data suggest that touch-tone telephones are widely available. Patients who do not have touch-tone calling can use our communication aids through an operator, who listens to their requests and keys them into the computer.

How Expensive Is It To Replicate the System?

The system, with the exception of telephone support groups, runs on a 386 personal computer, with a voice board. The total cost of the hardware is less than \$3,000, and the hardware can be easily used elsewhere.

SUMMARY AND PLANNED EVALUATIONS

Talking computers have made computers widely accessible to the health care delivery system. As a consequence, much of the promise of these systems can now be realized. An example is what talking computers can do to improve the productivity of case managers. This chapter describes systems designed to (1) allow patients to be better informed and more motivated to manage their own affairs, (2) help providers coordinate treatment with their partners in care, and (3) make case management easier. The literature reviewed in this chapter suggests that our expectations that telecommunication aids will help are reasonable.

There are, nevertheless, many lingering concerns about how these aids will interact with and affect patients. The authors are in the process of determining the impact of these aids on the delivery system and on patient outcomes. We have designed a randomized trial to examine whether these aids can correct deficiencies in existing case management of drug-abusing, poor, pregnant women. The project randomly divides volunteer subjects into two groups: the control group with traditional case management and the experimental group with telephone-assisted case management. Table 1 shows the difference between the services available to each group.

TABLE 1. *Difference between services received by control and experimental groups*

Control Group	Experimental Group
Telephone and telephone subsidy	Telephone and telephone subsidy
Inpatient detoxification	Inpatient detoxification
Outpatient rehabilitation	Outpatient rehabilitation
Aftercare	Aftercare
Prenatal care	Prenatal care
Labor and delivery	Labor and delivery
Well-child visits	Well-child visits
Immunization	Immunization
Existing case managers	One computer-assisted coordinator
Outreach home visits	Outreach home visits
Emergency child care	Emergency child care
	Computer services

The computer services in the trial include the telecommunication aids described in this chapter. It is anticipated that there will be 150 patients in the control group and 150 patients in the experimental group. We are collecting data on use of the services and the impact of services on patient outcomes (e.g., drug use, weight of infant at birth, employment, and cost of care).

Despite the attempt to design a careful evaluation study of the impact of these telecommunication aids on patient outcomes, there are two reasons to suspect that the study may not be definitive. First, the case management practice model is being tried on a limited patient population, thus requiring the case managers to switch from using telecommunication aids to using no such aids. This reduces the utility of the aids to the case managers. A more reasonable test of the systems would have been to use the system on all patients, not just the drug-abusing, pregnant patients.

Second, the telecommunication aids may have an impact on the system without having a noticeable impact on patient outcomes. In part to overcome this shortcoming of the evaluation study, the project is undertaking smaller scale studies that focus on evaluating individual telecommunication aids. These separate evaluations are being carried out for evaluating (1) response bias in answering computerized telephone questions, (2) accuracy of predictions of the Relapse Assessment and Early Labor Detection, (3) impact of the Telephone Support Group on patients' social support, (4) impact of the Community Health Rap on encouraging patients to participate in prenatal care, and (5) utility of the

system in following patients over time, and (6) impact of voice mailboxes on homeless patients.

The authors' data collection will be complete in 2 years, at which time we will report on our evaluation of the proposed telecommunication practice model.

REFERENCES

- Alemi, F.; Fadlalla, A.; and Higley, P. "Reactions to Talking Computers Assessing Health Risks." Working Paper of the Collaborative Care Project, Cleveland, OH, 1992.
- Angle, H.V.; Ellinwood, E.H.; and Carroll, J. Computer interview problem assessment of psychiatric patients. In: Orthner, F.H., ed. *Proceedings of the Second Annual Symposium on Computer Applications in Medical Care*. Washington, DC: Institute of Electrical and Electronics Engineers, 1978. pp. 137-148.
- Bauman, J.A., and James, G.L. A support group for burn victims and their families. *Soc Work Groups* 13(4):159-168, 1990.
- Bone, L.R.; Mamon, J.; Levine, D.M.; Walrath, J.M.; Nauda, J.; Gurley, H.T.; Noji, E.K.; and Ward, E. Emergency department detection and follow-up of high blood pressure: Use and effectiveness of community health workers. *Am J Emerg Med* 7(1):16-20, 1989.
- Brennan, P.F.; Moore, S.M.; and Smyth, K.A. Computerlink: Electronic support for the home caregiver. *ANS* 13(4):14-27, 1991a.
- Brennan, P.F.; Ripich, S.; and Moore, S.M. The use of home-based computers to support persons living with AIDS/ARC. *J Community Health Nurs* 8(1):3-14, 1991b.
- Bungey, J.B.; Pols, R.G.; Mortimer, K.P.; Frank, O.R.; and Skinner, H.A. Screening alcohol and drug use in a general practice unit: Comparison of computerized and traditional methods. *Community Health Stud* 13(4):471-483, 1989.
- Carr, A.C.; Ghosh, A.; and Ancill, R.J. Can a computer take a psychiatric history? *Psychol Med* 13:151-158, 1983.
- Erdman, H.; Cline, M.H.; and Greist, J.H. Direct patient computer interviewing. *J Consult Clin Psychol* 53(6):760-773, 1985.
- Evan, W.M., and Miller, J.R. Differential effects on response bias of computer versus conventional administration of a social science questionnaire: An exploratory methodological experiment. *Behav Sci* 14:216-227, 1969.
- Fink, J.C. CATI's first decade: The Chilton experience. *Soc Meth Res* 12:153-168, 1983.
- Greist, J.H., and Klein, M.H. Computer programs for patients, clinicians, and researchers in psychiatry. In: Sidowski, J.B.; Johnson, J.H.; and Williams, T.A., eds. *Technology in Mental Health Care Delivery Systems*. Norwood, NJ: Ablex Publishing, 1980. pp. 161-181.

- Havice, M.J. Measuring non-response and refusals to an electronic telephone survey. *Journalism Q* 67(3):521-530, 1990.
- Johnson, D.F., and Mihal, W.L. Performance of blacks and whites in computerized versus manual testing environments. *Am Psychol* 28:694-699, 1973.
- Kiesler, S., and Sproull, L.S. Response effects in the electronic survey. *Public Opinion Q* 50:402-413, 1986.
- Lucas, R.W.; Mullins, P.J.; Luna, C.B.; and McInroy, D.C. Psychiatrists and a computer as interrogators of patients with alcohol-related illnesses: A comparison. *Br J Psychiatry* 131:160-167, 1977.
- Nicholls, W.L. II. CATI research and development at the Census Bureau. *Soc Meth Res* 12:191-197, 1983.
- Sawyer, M.; Sarris, A.; Quigley, R.; Baghurst, P.; and Kalucy, R. The attitude of parents to the use of computer-assisted interviewing in a child psychiatry service. *Br J Psychiatry* 157:675-678, 1990.
- Sawyer, M.G.; Sarris, A.; and Baghurst, P. The use of computer interview to administer the Child Behavior Checklist in a child psychiatry service. *J Am Acad Child Adolesc Psychiatry* 30(4):674-681, 1991.
- Shangraw, R.F. Telephone surveying with computers: Administrative, methodological and research issues. *Eval Progr Planning* 9:107-111, 1986.

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Aftercare for Formerly Homeless, Recovering Women: Issues for Case Management

Deborah McMillan and Rose Cheney

INTRODUCTION

The case management discussed in this chapter is one service component of a National Institute on Drug Abuse (NIDA) research demonstration project titled Peer Support Groups for Recovering Women (the Aftercare project). Designed to provide information on how aftercare services reduce the incidence of readdiction among formerly homeless women, the research design for the Aftercare project, which is being conducted in Philadelphia, includes peer support groups and case management intervention. The primary objective of this 5-year study is to measure the effect of peer support on abstinence from drug use, establishment of drug-free social networks, improved mental health and social functioning, and enhanced social and economic stability in the study population.

DESCRIPTION OF THE TARGET POPULATION

The target population for this project is recovering women with children leaving homeless shelters for independent housing. Recruitment is through the Philadelphia Housing Authority, the Office of Services to Homeless Adults, and homeless shelters and related agencies throughout the city.

The women in the program have many of the problems related to family homelessness, such as a history of poverty and domestic violence as well as little access to sources of social and economic support. Earlier studies in Philadelphia found that families were particularly vulnerable after leaving the shelter for permanent housing (Philadelphia Health Management Corporation 1992). Because they are often housed in new neighborhoods, women have even fewer social supports to which they can turn. They often return to an environment with a significant drug presence. The pressures of maintaining a home, being a single parent, and maintaining sobriety can be overwhelming.

The characteristics of the women participating in the Aftercare project reflect the sociodemographic characteristics of substance-abusing homeless families in the shelter system in Philadelphia. Preliminary baseline data reveal that the women in the program are primarily unmarried black women in their twenties. Only women with children are eligible for the project, and the majority have two or more children. Most of the children are young (54 percent are age 5 or younger), and many of the children were living with relatives (16 percent) or foster parents (16 percent) at the time of their mothers' recruitment into the study.

Many young, minority, urban mothers face the struggle of intergenerational cycles of substance abuse, child abuse, and physical violence with few social and environmental resources (Comfort et al. 1990). In the Aftercare project, almost all the women are unemployed and receiving public assistance. Slightly more than half the women have not completed high school. The women have a history of extreme residential instability, averaging nine episodes of homelessness in the 2 previous years. The majority report physical abuse both as a child and as an adult. More than half were raised by at least one substance-abusing parent or caretaker, and a third had been sexually abused as children. Approximately one in five report having attempted suicide.

The primary drug of addiction for these women is cocaine, with many dually addicted to alcohol or marijuana. Sixty percent have been treated at least once previously for drug addiction, and half of those had been treated more than once. More than 15 percent overdosed on drugs at some time in their lives.

THE CASE MANAGEMENT MODEL

The National Association of Social Workers standards for case management, developed in 1984, define case management within the framework of generic social work practice with functionally impaired individuals and their families (National Association of Social Workers 1984). This view of case management recognizes that a trusting and enabling relationship is needed to expedite the utilization of services along a continuum of care and to restore or maintain independent functioning to the extent possible. Case managers are viewed as being engaged in a process of continual assessment, planning, evaluating, and monitoring as clients' needs change and resource demands fluctuate.

Miller (1983) stated that case management is viewed as a means of overcoming the complexity and fragmentation of service systems and of reaching the inadequately served, chronically and severely disabled population. It is a

shared function, requiring accountability, program evaluation, development of resources, social action, and a supportive agency environment (National Association of Social Workers 1984).

With some modification, the case management model used by the Aftercare staff is defined within a framework found in standard social work practice. In the Aftercare project, however, this model is adapted to incorporate a philosophy of empowerment. Empowerment is defined as a process whereby the social worker engages in a set of activities with the client or client system that aims to reduce the powerlessness that has been created by negative valuations based on membership in a stigmatized group (Solomon 1974).

In addition to their history of homelessness and drug abuse, the clients in this project also have faced a history of barriers related to their gender, race, and social status. The empowerment process is based on the development of an effective support system for those who have been blocked from achieving individual or collective goals because of the severity or complexity of the personal, social, and economic barriers they have encountered. Therefore, the case managers focus on helping the client to:

- Perceive herself as a causal agent in achieving a solution to her problem or problems
- Perceive the case manager as having knowledge and skills that the client can use
- Perceive the case manager as peer-collaborator or partner in the problemsolving effort
- Perceive the "power structure" as multipolar, demonstrating varying degrees of commitment to the status quo and, therefore, open to influence

In the Aftercare project, case management operates within a framework of traditional social work practices. As such, the case management tasks include multidisciplinary assessment, the development and implementation of a plan of care, the coordination and monitoring of services, advocacy for the client, and the planned, orderly termination of each case. The specific elements of these tasks as they are implemented in the Aftercare project are described in greater detail below.

The initial phase of case management begins with an assessment, the purpose of which is to understand the client as a whole and to be aware of the client's strengths and needs in a particular situation. The case manager

must understand the client in the context of the client's interactions with the external world. The assessment includes an appraisal of the client's needs and the resources of the client's informal supports, including family members, friends, and organizational memberships; an understanding of the impact and consequences of homelessness and substance abuse on the client and the client's family; an understanding of the client's preexisting problems, specific behaviors, family functioning, and values; and an estimation of the client's ability to become increasingly self-sufficient and independent.

On the basis of the assessment, the case manager develops a family service plan that incorporates the client's expectations and choices and delineates clearly agreed-on short- and long-term goals. This plan is reviewed and amended every 3 months. The bulk of the case management process is devoted to implementing the plan by arranging for a continuum of informal and formal services to be provided to the client and her family and for individual and family counseling.

The case manager links the client to the complex service delivery system. As the plan is being implemented, the coordination and monitoring of services helps ensure that clients receive appropriate services in a timely fashion. Because many families are involved with several agencies, regular efforts need to be made to coordinate the services received to ensure continuity and reduce duplication. Services are monitored through reports by the client and through the observations of the service providers.

The case manager also serves as an advocate for the entire family so they may receive their entitlement and obtain needed services. The case manager often has to act as an advocate to ensure that services are delivered, gaps in services are identified and filled, the individual's needs are recognized, and the client is not prematurely discharged by the service providers.

Based on this program design and the practical limitations of caseload size, case management services can be delivered for up to 12 months. It is the case manager's responsibility to prepare the family for the termination of aftercare. Earlier termination may be initiated by families who repeatedly fail to keep scheduled appointments with the case manager or adhere to the service plan. A 1 in 3 rate of early termination had been anticipated, but the dropout rate was closer to 1 in 10.

BARRIERS

Barriers to Implementing a Model for Women

The majority of the work done in the alcohol and other drug field has related to men. Perhaps because men traditionally have been more involved than women with illicit drugs, the specific needs and problems of women addicts were largely ignored until the mid-1970s (Beschner and Thompson 1981; Sutker 1982; Reed 1987; Marsh and Miller 1985). However, given the rapid rise in crack/cocaine addiction among economically disadvantaged urban women, it is increasingly important that the effects of gender are addressed.

Traditional models of drug treatment and aftercare remain primarily male oriented and are not appropriate to the needs and problems of female addicts (Cuskey et al. 1977). These models are usually confrontational in their approach. Although confrontation can be useful in working with women as well, it is not uniformly effective. In particular, evidence on battered women with patterns of learned helplessness suggests that such approaches are not only ineffective but also destructive (Reed 1987). Many addicted women have been battered and sexually abused, and their adaptive responses to dealing with males or to confrontation may reflect an important survival mechanism. Unfortunately, these responses may be maladaptive in a traditional treatment or case management setting.

In this client population, almost three-quarters of the women self-report a history of physical abuse, and one-third report sexual abuse as a child. It is likely that many of the remainder have also experienced sexual intimidation or the threat of physical violence by males. The women's relationships with men have revolved around viewing themselves as sexual objects. Unfortunately for these women, the staff members at most of the traditional, male-oriented treatment programs are male, although there is a trend at newly created treatment programs for women and children toward hiring female staff members. Based on the belief that the women are more comfortable working with women, the case management staff members for this project are female.

There is a gender difference in the stigmas attached to drug use (Cuskey et al. 1977; Reed 1987; Marsh and Miller 1985). It has been important to help women explore their feelings about women who have used drugs. Often, a woman has internalized the prejudices and misconceptions she hears about substance-abusing women. The particular circumstances of a woman's life must be explored to help her identify the sources of the guilt and shame. This helps women to validate their feelings of being stigmatized.

Barriers to Working With the Target Population

There are internal and external factors that make it difficult to work with this population. The internal factors include addictive behaviors and adjustment and personality issues. The external factors include environmental and structural barriers imposed by society and particular institutions on this population. Some specific barriers are itemized below.

Addictive Coping Behaviors. As a result of their addictive lifestyle, many substance abusers can be manipulative. The women have used manipulation to adapt to various life experiences. Although the women in this project have been abstinent from drugs for an average of 8 months, the addictive behaviors continue long after the chemical leaves the body. Case managers must be aware of the range of addictive behaviors and of how to bring these behaviors to the attention of the client.

Keeping Scheduled Appointments. Because of their chaotic lifestyles, many of the women are not accustomed to adhering to a schedule. With a relatively intensive caseload of 15 families, it is difficult for case managers to visit families twice a month, in large part because of frequent broken appointments. In addition, because all the women in this project are recovering from substance abuse, they need to attend Narcotics Anonymous meetings on a frequent basis and often are enrolled in outpatient counseling. This means that a great deal of their time is taken up with these other meetings, which often makes it difficult for them to schedule time to meet the case managers.

Limited Resources and Independent Living. The material and concrete needs of the clients are great, but there are shrinking resources in the community to meet these needs. Most of the women have never lived on their own before. The case manager must spend a great deal of time helping the parent develop household and money management skills. The women have learned to save a percentage of their public assistance benefits, but they frequently do not have enough money to adequately furnish their new homes because the startup costs of acquiring basic appliances and furniture can be high. Often, these women have not learned to comparison shop or "bargain hunt" and, as a result, spend too much of their limited resources on overly expensive household items.

Children and Parenting. All the women in this project are mothers, and they face many barriers that relate to their children. Many need to work with the case manager to develop life and parenting skills. In the shelter, there usually were other parents and staff who assisted the mother. With independent living, the stress on the single parent can increase. A lack of available formal or

informal child care interferes with scheduling and opportunities for training. The immediate needs of their children often take precedence over the women being able to meet with their case managers.

Transportation. It can be difficult for women with more than one preschool-age child to travel and make appointments. Even something as simple as a stroller can make a difference in the daily mobility of a mother with preschoolers. Public transportation can be costly, and the women need help in budgeting their limited resources to cover transportation costs.

Potential for Relapse. Compounding the effects of all the above barriers is the high relapse rate for cocaine. The stress of establishing and maintaining a household (often for the first time), assuming total child-care responsibilities, and maintaining recovery is very taxing and sometimes triggers a relapse.

Role of the Case Manager. In light of these barriers, the role of the case manager working with addicted women can change repeatedly. These different roles require a range of skills. As an individual who establishes limits, the case manager needs to assess and respond to the inappropriate behavior of clients by challenging manipulative behavior and communicating limits. This helps a woman feel safe and begin to deal constructively with her problem(s). As an *advocate*, the case manager must help the client access often limited services. A client may lack assertiveness and basic skills needed to negotiate for services from community resources. She may not feel deserving and may need active intervention on her behalf. As a *treatment coordinator*, the case manager can ensure that services are coordinated and that there is continuity of care. Often, the client may need a treatment plan that involves a variety of activities and services. As an *educator*, the case manager helps the clients acquire new knowledge and specific skills, including parenting, household, budgeting, life, negotiation, and vocational skills. The case manager can teach the client directly, provide role model behavior (as in parenting), and identify and obtain other psychosocial educational opportunities. Finally, as a *therapist*, the case manager provides an ongoing relationship to initiate and guide a process to improve a client's functioning and well-being.

GAPS IN SERVICES

The major gaps in services for the target population include the lack of affordable housing, lack of affordable child care, and lack of material goods. Advocacy on behalf of the clients, individually and collectively, is often the only method available to the case manager to deal with these gaps in accessing needed resources.

Many of the families in this project have a difficult time receiving subsidized or traditional public housing. Approximately 40 percent of the women have Section 8 certificates or are assigned to conventional public housing. (Section 8 is a federally funded program that certifies private housing for rent and subsidizes the rent payment.) Ten percent are in transitionally subsidized housing, and half are in private or other types of housing. For women in transitional subsidized housing, the subsidy lasts only 1 year; at the end of this year, the family may become homeless again if they are not issued a Section 8 certificate, are not assigned to public housing, or do not gain employment that enables them to afford the higher rent. There is a great deal of stress on the parent in maintaining permanent housing, and this can contribute to relapse.

Parents who want to continue their education or gain employment have difficulty in locating affordable child care due to the shortage in slots. Because they have often moved into a new area to obtain available housing, informal social supports also are unavailable for child care. One of the goals of the peer support component of the Aftercare project is to allow women to develop a helping, supportive network. Unfortunately, the dispersion of their housing assignments has hindered the development of informal, shared child care. In the absence of readily accessible child care, the transportation of preschool children becomes another major barrier in reaching many services.

LINKAGES WITH OTHER COMMUNITY AGENCIES

As a new aftercare service, the staff of this project faced problems of visibility and acceptance by other community agencies. Although a comprehensive guide to services in the area is available and announcements about the program were distributed throughout the service system, it was still necessary to establish more concrete connections with appropriate providers. To this end, the staff held a symposium that was attended by social service providers throughout the city to develop awareness of the program. This event set the Aftercare project apart as the only one providing services to this population in the city. The project's visibility increased, resulting in many more referrals. In addition, the staff represents the project on various citywide committees that are concerned with the needs of homeless children and recovering families. Representatives from the Aftercare staff are included in advocacy groups involved with housing issues and other issues related to the lives of the project's clients.

Because there are often several different agencies working with one family, the case manager must not only make appropriate referrals but also monitor the provision of services to the family. Information exchange among agencies is facilitated by using release-of-information forms. Issues related to client

confidentiality as it relates to human immunodeficiency virus (HIV) infection and its legal implications are addressed. Referrals are made to city agencies that can best meet the families' needs. (Formal programmatic linkages have been developed with a transitional housing program, which serves recovering women, that has requested the program's help in providing case management to these families when they leave the transitional housing program.) Aftercare staff members attend training sessions to keep abreast of the resources available to this population. New information is constantly being filtered to them through the network of agencies working with this population.

RESEARCH DESIGN

The research will focus on the effectiveness of peer support groups for approximately 200 formerly homeless women who have moved from emergency shelters or residential treatment programs to independent housing. The long-term goal of the research demonstration is to provide information that will lead to a reduction in the incidence of readdiction by providing improved aftercare services for this population. The research will compare outcomes over an 18-month period for women from the target population.

The basic structure of the research is a randomized experimental design with longitudinal followup over 18 months. Volunteers are randomly assigned to either an experimental group, which participates in peer support and case management, or a control group, which receives case management alone. The outcome of clients in the peer support group will be compared over time with those receiving only case management. The longitudinal comparison of control and experimental groups utilizes structured followup interviews every 3 months for the 18-month period. There is also a qualitative research component that includes field observation of the initial peer support cohort, client life histories, and a review of case management records. In addition to a process evaluation of case management activities, the effectiveness of case management also can be estimated through a comparison of the outcomes for project clients with previously published data on homeless and recovering women.

INSTRUMENTS

The intake and followup interviews provide a participant profile that includes demographic baseline data, substance abuse histories, psychosocial histories, and information on social networks. The interview includes the administration of a modified version of the Addiction Severity Index (ASI), the Rosenberg Self-Esteem Scale, a health and daily living assessment, a depression scale, and a social support network inventory. Demographic data include living

arrangements, residential history, and self-reported information on substance abuse. Because the ASI was developed primarily for a specific population of males, it was necessary to modify it somewhat to make it more appropriate for women.

Because information on substance abuse is collected as part of the research design, informed consent is obtained from each project volunteer. In addition to understanding the interview, it is also important that the client understands the obligations of the case manager with respect to reporting suspected child abuse or neglect.

Case management activities are evaluated through process data such as client and service contact rates. Outcome measures of success for case management include the client's progression along mutually identified goals and the successful accessing of needed services. As part of the intake process, a comprehensive social history is taken by the case manager, and release-of-information forms are signed to expedite referrals. Family service plans and family service plan summary forms provide documentation in a consistent format that includes the case managers' assessment, progress, goals, objectives, services and activities, providers, monitoring, timeframes, and outcomes. Quarterly summary forms require that the case managers identify the degree to which specific service area goals are being met.

FINDINGS

Because it is still early in the data collection process, no final outcome data are available. Findings at this point consist only of preliminary baseline data and qualitative observations; there is insufficient followup data available for even tentative conclusions on the effectiveness of aftercare services. However, preliminary data analyses have been useful in indicating areas of concern specific to this population. Data for this project are being collected from successive cohorts of women as they leave homeless shelters. Followup interviews are conducted at 3-month intervals over an 18-month observation period. Final analysis of these data will begin in 1996 in year 5 of the project. The results presented below are based on observation of the women during the first year and a half of the project and on 46 baseline interviews.

Preliminary baseline data for this project indicate that most of these women have long histories of the regular use of alcohol, marijuana, and cocaine (Roth et al. 1991). In addition, the majority reported previous treatment for drug use.

An unusual result in the preliminary review of the baseline data was that the women's scores on a self-esteem scale were slightly higher than the general

population, but this result was not statistically significant (Wylie 1974). It will be interesting to see whether this result holds up with a larger sample and, if it does, whether it changes over time. It is possible that the initial move from shelter and treatment to independent living could be marked by a greater sense of control in the women's lives. For many women, successful recovery, leaving the shelter, and obtaining housing for the first time represent the most positive experience in their lives. However, it also is possible that during the course of treatment the women learned the appropriate answers to the type of questions found on this scale.

The women's scores for social networks were on par with those of an urban area. However, few of the supports named, often immediate family members, did not live in the same neighborhood as the respondent. Although most women had men in their lives, only a third reported their spouse or lover as one of the five people most important to them.

Observation data from the peer group have made it evident that project participants are at high risk for relapse as they leave the supportive, structured recovery environment for the potentially overwhelming situation of living on their own (Roth and Fox 1991). Often, the women are afraid that the freedom and privacy of independent living will trigger their relapse into drug use. Other factors placing women at risk for drug relapse are rooted in the reality of poverty. These women stand little chance of becoming economically independent and breaking a lifelong cycle of dependency. Observational summaries also indicate that, although the women's lives are unsettled, the peer group members seem relatively committed to the peer support group.

A series of issues raised in peer support groups identified several gender issues relevant to recovery and maintenance for these women. Currently, available aftercare is primarily limited to 12-step programs and outpatient counseling. In addition to needing nonconfrontational emotional support, these women need a forum to discuss other issues directly affecting their recovery as women, such as battering, parenting, and sexual relationships. The women report that the peer support group is the only place where they have been able to raise many of the issues that are troubling them.

COSTS

This aftercare model requires fairly intensive case management, which includes frequent home visits and limits the caseloads to 15 families per case manager. Cost-containment requires the termination of clients who do not participate or do not keep appointments. However, despite these aftercare costs, the direct and indirect cost of recurring cycles of substance abuse and homelessness are certainly greater.

Direct cost data for aftercare services were not a specific part of the research design, but because complete budget information is available for the case management services and process data are kept on the case management services provided, relative cost comparisons can be made. At present, initial startup costs interfere with this analysis.

One of the direct costs of relapse that can be estimated is the cost of emergency shelter. The annual cost to the city of Philadelphia to provide a family with emergency shelter is more than \$11,000. Baseline data indicate a history among clients of extreme residential instability with many repeated episodes of homelessness. Of course, the indirect costs of drug abuse are innumerable and often unmeasurable. These include the economic and social impacts of drug use, the increased risk of HIV infection, and the intergenerational effects on the children.

RESEARCH PROBLEMS WITH CASE MANAGEMENT

The proper framing of the research design within the contextual realities of case management is a key concern. Case managers must operate within a system of social and economic resources for their clients. The research design must, at a minimum, document how these system effects influence case management. In the face of serious fiscal crisis in local government and a withdrawal of supports on a national level, case managers are facing a greater range of needs among their clients, combined with steadily shrinking resources. With this myriad of unmet needs, the activities of case managers can be reduced to full-time crisis intervention.

The context of resource availability should be fully identified for any research project operating in an environment of extreme competition for limited services. Often, case managers can change the priority status of their clients on waiting lists for limited services only at the expense of similarly needy persons who do not have the advocacy power of a case manager. This can introduce significant bias into a research model that assumes that case management increases the universe of accessed services, rather than merely shifting who successfully accesses those services. To avoid the potential for inappropriate generalization, it is important to identify whether the case management effects, when implemented on a larger scale, will be additive to or competitive with existing access to and availability of services.

On a less global level, within the Aftercare project, design problems also arise from the natural tension between research and service provision. This is highlighted in an experimental design that includes a control group. The nature of the case management advocacy process makes it difficult to maintain

a control group with limited services. To balance this, research focused on the effects of one element of aftercare, the peer support group, with case management services remaining constant across both groups. Qualitative observational data, process data, and comparisons with other published data provide the only direct evaluation of the case management component.

The intrusiveness of collecting baseline and followup data also provides another potential for bias. The data are collected by interviewers rather than the case managers. This has resulted in a duplication of requested information from the client. Given the nature of the interaction between client and case manager, this process of interviewing may help pattern client interactions with the case manager, trigger the supply of additional information, or fatigue the client. The direction of this bias is not clear, and although it cannot be fully overcome, this bias can be addressed in part by ensuring that case managers follow protocols, take complete social histories at intake, and maintain methodical followup contacts.

IMPLICATIONS FOR FURTHER RESEARCH

Although there are many areas for further research, several issues related to gender need to be examined in greater detail. The effects of gender on case management should include an examination of women's roles and self-perceptions.

Many poor, inner-city mothers are single parents. In the target population, 90 percent of the mothers were single. Despite efforts at empowerment, most of these women have little chance of becoming economically independent. Children are a larger part of their life than many other case-managed populations. The problems that arise range from the simple mechanics of getting from one place to another to the interpersonal complexities of parenting and the impact on these children. Any case management of this population must address multiple factors linked to children and poverty.

Gender also affects levels of actual and perceived vulnerability. Many of these women have a history of being abused. They may distrust men and often have come to expect violence (Armstrong et al. 1991). Most women in this study named other women or their children as their most significant social support, rather than a male partner. Often, their new apartments and welfare payments put them at risk for having former abusive and/or addicted partners return. Role playing and skill building are important in building the client's skills for communication and negotiation. However, in cases where communication is not enough, it is important that case management operates with an understanding of the constraints that such vulnerability can place on clients.

Finally, understanding gender differences may be useful in addressing the issues related to preventing relapse to drug use and homelessness. These may include differences between men and women in addiction, treatment, self-esteem, and the development of social support networks. A better understanding of gender effects can be an important building block in understanding the client, and a complete and multidimensional understanding of the client is vital to effective case management.

REFERENCES

- Armstrong, K.; Kenen, R.; and Samost, L. Barriers to family planning services among patients in drug treatment. *Fam Plann Perspect* 23(6):264-271, 1991.
- Beschner, G., and Thompson, P. *Women and Drug Abuse Treatment: Needs and Services*. National Institute on Drug Abuse Services Research Monograph Series. DHHS Pub. No. (ADM)81-1057. Rockville, MD: U.S. Department of Health and Human Services, U.S. Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, 1981.
- Comfort, M.; Shipley, T.E., Jr.; White, K.; Griffith, E.M.; and Shandler, I.W. Family treatment for homeless alcohol/drug-addicted women and their preschool children. *Alcohol Treat Q* 7(1):129-147, 1990.
- Cuskey, W.; Berger, L.; and Densen-Gerber, J. Issues in the treatment of female addiction: A review and critique of the literature. *Contemp Drug Prob* 6(3):307-355, 1977.
- Flaherty, J.; Gavira, M.; and Pathak, D. The measurement of social support: The social support network inventory. *Compr Psychiatry* 24:521-529, 1983.
- Marsh, J., and Miller, N. Female clients in substance abuse treatment. *Int J Addict* 20(6 and 7):995-1019, 1985.
- Miller, G. Case management: The essential service. In: Sanborn, C., ed. *Case Management in Mental Health Services*. New York: Haworth Press, 1983. pp. 3-16.
- National Association of Social Workers. *NASW Standards and Guidelines for Social Work Case Management for the Functionally Impaired*. No. 12. Silver Spring, MD: National Association of Social Workers, 1984.
- Philadelphia Health Management Corporation. *The Homeless Families Initiative*. Philadelphia, PA: Philadelphia Health Management Corporation, 1992.
- Reed, B. Developing women-sensitive drug dependence treatment services: Why so difficult? *J Psychoactive Drugs* 19(2):151-164, 1987.
- Roth, L., and Fox, E. "Homeless Recovering Women: Risk Factors for Relapse and Homelessness." Paper presented at the 1991 National Health Care for the Homeless Conference, Washington, DC, October 28-29, 1991.
- Roth, L.; Coughney, K.; McMillan, D.; and Klein, G. "Substance Abuse History of Recovering Formerly Homeless Women: Implications for Effective Aftercare."

- Paper presented at the annual meeting of the American Public Health Association, Atlanta, GA, November 10-14, 1991.
- Solomon, B. *Black Empowerment: Social Work in Oppressed Communities*. New York: Columbia University Press, 1974.
- Sutker, P. Drug dependent women: An overview of the literature. In: Beschner, G.; Reed, B.; and Mondanaro, J., eds. *Treatment Services for Drug Dependent Women. Vol. 1*. DHHS Pub. No. (ADM)81-1177. Rockville, MD: National Institute on Drug Abuse, 1982. pp. 25-49.
- Wylie, R.C. *Measures of Self-Concept*. Lincoln, NE: University of Nebraska Press, 1974.

ACKNOWLEDGMENT

The research described in this chapter was supported by NIDA grant DA-06989.

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Intensive Case Management for Youth With Serious Emotional Disturbance and Chemical Abuse

Mary E. Evans and Norin Dollard

INTRODUCTION

New York State has developed an intensive case management program for children and youth that is client centered and linkage and advocacy focused. The goal is to maintain children and youth with serious emotional disturbance (SED) in natural home, school, and community environments. Intensive case managers work with small caseloads and have access to flexible funds to meet the needs of individual and target population children. There have been no specific modifications in the program model to accommodate children and youth who have both mental health and chemical abuse problems. This chapter describes the Children and Youth Intensive Case Management (CYICM) program, discusses barriers to model development and implementation, and identifies impediments to interagency cooperation and gaps in services. The authors also outline several research strategies, including descriptive studies, program evaluation, and funded research, that are being used in assessing the effectiveness of CYICM.

Adolescents with chemical abuse problems enrolled in CYICM (22 percent, $n=130$) differ from nonabusing enrollees ($n=451$). Those in the abusing cohort are more likely to be emancipated minors and not enrolled in school, less likely to be members of a minority group, and more likely to have private health care coverage. They also evidence a different constellation of symptoms than the nonabusing cohort, with abusers tending to display suicidal symptoms and behaviors and sexual acting out. Abusers are also more likely to have been admitted to private psychiatric hospitals and to have crisis contacts in emergency rooms. Similar to nonabusers, however, abusers spend significantly fewer days as inpatients in State hospitals and have fewer admissions to these hospitals following their enrollment in CYICM.

Although case management has been deemed an essential service to address the problems of fragmented service delivery systems in both medical and human services (Rapp and Chamberlain 1985), there is no common agreement about the definition of case management, the setting in which it should be provided, or the most appropriate providers (Rapp and Chamberlain 1985; Huz and Pulice 1988). However, there are goals, principles, and activities that should, theoretically, characterize a case management program.

DEFINITION OF CASE MANAGEMENT

The essential goals of case management are to promote continuity of care and to maintain people in the community. These goals are achieved via "traditional" case management activities, including assessment, planning, monitoring, linkage, and advocacy (Sullivan 1981). Regardless of who provides case management and where these services are provided, the values of empowerment and advocacy frame a crucial context for provision of services (Rose and Black 1985).

In New York State, CYICM can be described as an intensive, client-focused, advocacy-oriented program. The goal of this program is to provide intensive services to a family with a child who has SED and to work with the family (natural, adoptive, or foster) and child-serving systems to maintain the child in natural school, family, and community environments.

NEW YORK STATE'S INTENSIVE CASE MANAGEMENT PROGRAM

The case management model developed in New York State by the Office of Mental Health (OMH), Intensive Case Management (ICM), was informed by the experiences of other case management programs for adults with serious mental illness, including Stein and Test's PACT (Program for Assertive Community Treatment) model (Stein and Test 1980); Washington, DC's Community Connection program (Harris and Bergman 1988); Philadelphia's Intensive Case Management program (Philadelphia Three Year Plan 1986); Witheridge and Dincin's (1985) Thresholds model; and the Kansas Developmental Acquisition model (Rapp and Chamberlain 1985). As described by Surles and colleagues (1992), the philosophy and value system underlying the ICM model combine principles of advocacy and empowerment (Rose and Black 1985) with those of psychiatric rehabilitation (Anthony et al. 1988).

Distinct from models reported elsewhere in which case managers may also function as primary therapists, New York's ICM is not "therapeutic." It is intended to deal with the problems experienced by persons with mental illness,

not mental illness in and of itself (Rapp and Chamberlain 1985). It is client centered, and services are delivered in the natural environments (i.e., they are not office based). Unlike traditional "9 to 5" outpatient services, the hours of operation are quite flexible, with a 24-hour-per-day, 7-day-per-week response capability. To ensure high intensity of services, the child-to-worker ratio is quite small: 10:1. Finally, intensive case managers have access to flexible service dollars that can be used to facilitate the client's access to needed services and supports.

In addition to improving the quality of care for individuals, ICM is intended to improve the service system in which clients receive care. Although case management is sometimes seen as a method of facilitating cost-containment (Henderson and Wallack 1987; Rodriguez and Maher 1986), ICM may increase the number and types of services provided as the system becomes more responsive to the needs of individuals. This shift from a provider-driven system to a client-driven system is an important policy change.

LITERATURE REVIEW

Historically, attention and funding for children's mental health services in the public sector have been directed toward residential and inpatient settings. Following civil rights and due process reforms (Willie M. v. Hunt 1984) and stimulated by the book "Unclaimed Children" (Knitzer 1982), however, national recognition was achieved for the treatment of children in the least restrictive setting appropriate to their needs (1975 Education for All Handicapped Children Act, 1975). Leadership was evidenced by the National Institute of Mental Health (NIMH) in its development of the Child and Adolescent Service System Program (CASSP) in 1984. CASSP developed technical assistance packages and provided funding to States to assist with the development and implementation of a community-based system of care for children and their families. Consistent with the philosophy of treatment in the least restrictive setting appropriate to their needs and to the goal of treatment in a family context whenever possible, in 1987 OMH began to develop programs that represent alternatives to inpatient and restrictive residential treatment. OMH is committed to building an array of services, including inpatient hospitalization, day treatment, residential treatment, therapeutic foster care, intensive case management, family support services, home-based crisis intervention and other emergency care programs, clinic treatment programs, and respite programs.

A review of literature in the area of case management for children and youth with mental health problems indicated that no studies of the effectiveness of this intervention have been published. The data contained in this chapter and elsewhere (Evans et al. 1991) provide early indicators of the effectiveness of case management in decreasing hospitalization of enrolled children.

NEW YORK STATE'S CYICM PROGRAM

Children and youth with SED are one of four target populations for the ICM program. The model described above was designed for adults but was implemented, without modification, for children and youth. CYICM is intended to reach a historically underserved, at-risk population. Children and youth are designated as being at risk if they have one or more of the following (New York State Office of Mental Health 1991a):

- History of psychiatric hospitalization within the preceding 2 years or are at risk of rehospitalization
- Long length of stay during a psychiatric hospitalization (in excess of 90 days)
- History of crisis-related contacts
- History of out-of-home placement due to psychiatric difficulties
- History of ineffective mental health treatment (e.g., a history of unplanned movement out of treatment)

No particular modifications are made in the CYICM model to accommodate persons with substance abuse problems. This is equally true of adult ICM in which 44 percent of the clients receiving services could be classified as having both mental illness and chemical abuse (Donahue et al. 1989). The underlying philosophy of ICM is client centered and client and system advocacy oriented; therefore, changes are not made in the model per se, but in the specifics of the activities undertaken on the client's behalf.

In 1988 the New York State OMH implemented CYICM to keep children and adolescents with SED in as natural and nonrestrictive environments as possible (New York State Office of Mental Health 1989). CYICM is an intensive client-centered service provided to the identified child in his or her natural environment, home, school, and community. As with the adult model, services delivered by the intensive case manager are dictated by the needs of the child in the context of his or her family. CYICM services are provided 24 hours per day, 7 days a week, 365 days a year. The intensity of services is ensured by the low child-to-worker ratio.

DEMOGRAPHIC CHARACTERISTICS

To date, CYICM has been implemented in 35 counties in the state, including the five counties of New York City. The demographic characteristics of

adolescents, 13 years of age and older, who have been served in CYICM are displayed in table 1. For comparison purposes, data on the general population under the age of 18 from the 1990 census are included (New York State Data Center 1990).

Statewide, adolescents (n=581) served by CYICM are typically white non-Hispanic (66 percent), male (56 percent), 15 years of age on admission, and in the custody of their biological parents (71 percent). They reside in single-parent households (46 percent), are covered by Medicaid (60 percent), and are in a special education program (55 percent). They display five problem behaviors or symptoms, such as fighting and sexual acting out; are functionally impaired in 2.5 areas, such as self-direction and social relationships; and have been hospitalized or placed out of home due to psychiatric impairment 2.5 times.

BARRIERS TO MODEL DEVELOPMENT AND IMPLEMENTATION

Several difficulties were experienced in developing and implementing the model. First, it is important to realize that ICM is a statewide program that has been implemented in counties with diverse service systems, geography, economics, political structures, populations, and needs. Second, although this is a statewide program and a set of guiding principles was developed, the program was implemented locally by varying auspices. ICM is operated directly by both the State mental health authority through its State psychiatric hospitals and the local public mental health systems through local mental health

TABLE 1. *Race and ethnicity of CYICM adolescents vs. general population*

Race/Ethnicity*	New York State (n=581)		New York City (n=104)	
	CYICM Adolescents (Percent)	General Population (Percent)	CYICM Adolescents (Percent)	General Population (Percent)
White	66	74	30	52
Black	22	16	51	29
Other races	2	10	18	19
Hispanic	11	12	32	24

*These categories are not mutually exclusive (i.e., the Hispanic category includes all ethnic backgrounds).

departments or through contracts with local voluntary agencies. This model of program implementation trades control and strict accountability for flexibility and sensitivity to the needs of the local community.

It is also important to note that the New York State program was developed for adults and that CYICM program staff and evaluators are only beginning to understand some of the ways in which it could, and perhaps should, be modified for children and adolescents. An NIMH-funded research demonstration project, Project FIRST (Family-focused Intensive Resources for Support and Treatment) (Evans 1990), which is under way in three rural counties in New York state, examines the outcomes of a modified ICM model, called Family-Centered Intensive Case Management (FCICM) with the outcomes of a therapeutic foster care program. This research has important implications for future policy and program development in the area of CYICM, particularly in the area of caseload size.

Project FIRST addresses several issues raised during the initial implementation of CYICM. Primary among these is the need to recognize explicitly the family, not the child, as the focus of the intervention. CYICM intensive case managers have a de facto caseload of 10; in most cases, however, they routinely deal with numerous family members, teachers, and human services providers. They must also consider the needs of family members and the stress placed on parents and siblings in living with and caring for a child with SED. Recognition of this stress has led to the incorporation of peer support groups for parents/caregivers, the use of a parent advocate (PA), and the planning of recreational events to reduce the isolation experienced by families. Respite is frequently cited as a need by parents of children with SED. Rather than expending flexible service dollars on this service, money for planned and crisis respite services was included in the model. Because of the complexity of the case manager's job in focusing on families rather than individual children, the caseload has been reduced to 1:8.

Consistent with the philosophy of empowerment, the Project FIRST staff believes that parents should also be recognized as experts in the care of their children (Friesen and Koroloff 1990). In Project FIRST, this belief is implemented in three ways. (1) Parents are included as members of the treatment team, and their needs, wishes, and suggestions are an integral part of treatment and service planning. (2) To assist parents as members of the treatment team, parenting and behavior modification skills are taught in the context of support group meetings and practiced at home with the assistance of the FCICM PA. (3) To further establish the importance and expertise of parents, a PA, the parent of a child with SED, is included in the project. The PA's role is to support the parents, coordinate support group meetings and recreational events, serve as a member of the treatment team,

and assist parents in advocating on behalf of their child. PAs also serve as role models for other parents enrolled in Project FIRST.

In many cases when CYICM was implemented, only one children and youth intensive case manager was assigned to a county, requiring that person to cover a large, rural area. This introduced logistic problems and resulted in the social isolation of the case manager. Because this type of work is demanding, these case managers wanted opportunities to discuss their work with a supervisor or other intensive case managers. Coverage for the 24-hour-a-day, 7-day-a-week work period was also problematic in these cases.

BARRIERS TO WORKING WITH THE TARGET POPULATION

The main barrier to working with the target population is the severe inadequacy of community-based services to which children and families can be linked. Historically, clinic-based treatment and residential care were the only options available. Despite the changing orientation of mental health providers, the number and type of community services available have not kept pace with the needs of children and families. For example, to support parents in maintaining their children at home, programs are needed that fill the gap between the end of the schoolday and the end of the workday. Day-long summer activities are also needed.

DEALING WITH GAPS IN SERVICES

Two mechanisms are used to deal with gaps in service. The first is the use of the flexible service dollars to create or stimulate the creation of needed services. Up to 75 percent of the flexible funds available can be used to purchase services for the class of CYICM clients, and the other 25 percent must be used to meet the needs of individual children. If such services as crisis services, respite, or after-school programs are not available in a community, the flexible funds can be used to initiate such programs.

Tangible needs must also be addressed if families are to remain in and derive benefit from services (Rapp and Chamberlain 1985; Surles and Blanch 1989). As discussed earlier, flexible service dollars are one method of meeting these needs. Money for transportation to support group meetings, trained child care workers who function as baby-sitters to allow parents to attend meetings, and refreshments at meetings are ways of ensuring maximum participation from parents. Provisions for transportation, particularly in rural areas, is essential. Frequently, mass transportation is unavailable; personal transportation is inaccessible; and the distance to services is prohibitive. Finding child care for

children with SED is cited frequently as a barrier to active participation by families. If such issues as transportation and child care can be addressed adequately, it will be easier for parents to participate as partners in developing and implementing a treatment plan for their child.

The second way of dealing with gaps in service is through advocacy. Intensive case managers are engaged in advocacy at two levels—the client and the service system. They not only aggressively seek services for a particular client but also work to make the service system more responsive to the target population.

ISSUES IN DEVELOPING LINKAGES WITH OTHER COMMUNITY AGENCIES

A lack of coordination and “turf” issues among the various human services agencies impede coordination of services (Friedman and Duchnowski 1990). In New York State there are 13 child-serving agencies. There are often conflicting requirements for receipt of services across agencies, contrasting and uncoordinated philosophies about how best to serve children and families, and inadequate information sharing among human service agencies.

OMH is committed to serving children who are clients in multiple agencies. The program staff believes that there may be children in the custody of the Department of Social Services who are in need of ICM services. When the program model was released, OMH recommended that an interagency intake committee be developed at the local level. The purpose of the committee would be to review records of children referred to the committee and to put on a roster those appropriate for CYICM. Although many counties established such an interagency committee, some did not. In the future, interagency committees may be mandated to ensure the referral of children from non-mental health agencies.

Collaboration with local departments of social services and schools has been difficult in some areas. In particular, access to schools has been problematic for some intensive case managers, with school principals refusing to allow intensive case managers to work with teachers. Continuous efforts are being made to forge more collegial links with other child-serving agency staffs.

Another way in which OMH is seeking to develop linkages and foster coordination is through an approach in which agencies at the State level attempt to avoid duplicative regulations, develop memoranda of understanding on funding, foster information sharing, and provide assistance across agencies in meeting the total needs of children and their families.

Initially, there was also difficulty associated with accessing and using the flexible service dollars. In particular, the case managers were uncertain for what purposes they could use the money; that is, could it be used to meet family needs as well as those more clearly recognized as the child's needs? The model indicates that at least 25 percent of the service dollars must be used for the needs of individual children; the remaining funds may be used to develop services and programs, such as respite and after-school programs, for all ICM clients. However, the guidelines were not specific regarding the expenditure of funds for the family vs. the individual child.

In addition, at the State level, there were concerns about funding for CYICM, but OMH was able to access funds through Medicaid's Comprehensive Case Management option. Billing under this option is appropriate because of the limited target population and the rostering procedures used in CYICM. A positive outcome of the ability to access this option is that case managers need only to document four face-to-face contacts per month to access Medicaid funds instead of the frequent paperwork required when each service contact must be documented.

RESEARCH STRATEGIES AND INSTRUMENTATION

Three general research strategies are used in evaluating the outcomes of CYICM. The first is to collect descriptive data on all children enrolled in the program. The staff at OMH developed a Client Description Form for Children and Adolescents (CDF) based on minimum data set recommendations developed by the Mental Health Statistics Improvement Program at NIMH (Leginski et al. 1989). This form is completed by the intensive case manager within 30 days of a child's enrollment and contains demographic, living situation, custody status, educational placement, problem behaviors and symptoms, treatment and placement history, and functional impairment variables. This form also is used for collecting data on all children enrolled in seven other community-based programs, thus allowing for cross-program comparisons. The descriptive data permit program and policy staff to determine whether the target population is being served in the CYICM program.

The Program Termination Form (PTF), a companion form to the CDF, is completed on discharge. It provides information on the reason for termination, service referrals, the living situation on discharge, and whether this living situation has changed since admission. Based on the data collected by the CDF and the PTF, the evaluation staff is able to describe the children enrolled in the programs, compute average length of stay, identify and compare subpopulations of children (e.g., long-stay vs. shorter stay children), and determine proximal outcomes associated with the program. Such outcomes include changes in restrictiveness of living environment.

The second research strategy involves classic program evaluation and addresses questions about program implementation, case manager behavior, and client and system outcomes. A 3-year evaluation of CYICM is being conducted in New York State (Huz et al. 1990). The logic model underlying this evaluation appears in figure 1. The endogenous variables are characteristics of the service system and the organizations providing the service; the characteristics of intensive case managers; and the characteristics, status, and functioning of the children and their families. These variables affect intensive case manager behavior, which in turn influences the service system and child and family outcomes. The expected service system outcomes include decreased number of days spent in the most restrictive levels of care by enrolled children and decreased use of crisis services such as psychiatric emergency rooms. Expected child and family outcomes include fewer unmet needs for a variety of services and improved child functioning in home, school, and community environments. A 30-percent random sample of children receiving CYICM services will be studied intensively using a Baseline Supplemental Form (BSF) containing information on family structure, unmet needs, and child and family functioning. These children will be compared with a nonequivalent comparison group, probably children on CYICM waiting lists, to more definitively assess the outcomes of this intervention.

The third research strategy is to design and seek funding for research demonstration projects that permit the use of rigorous research designs to answer questions about the effectiveness of the intervention and to begin to understand what types of services work best for which children and families. For example, as mentioned previously, the authors currently have a 3-year research demonstration project funded by NIMH to establish a new program model, Family-Centered Intensive Case Management, in three rural counties and to compare the program's outcomes with those of Family-Based Treatment, New York State's model of therapeutic foster care. The research uses a positive controlled randomized study design with multiple observations, assigning children ages 6 to 12 years who are referred for therapeutic foster care to one of these two treatment conditions. The evaluation focuses on provider behavior and family, child, and system outcomes, including cost-effectiveness of the two programs. Figure 2 presents the logic model for this research, including the classes of variables identified for study in each of the domains of interest.

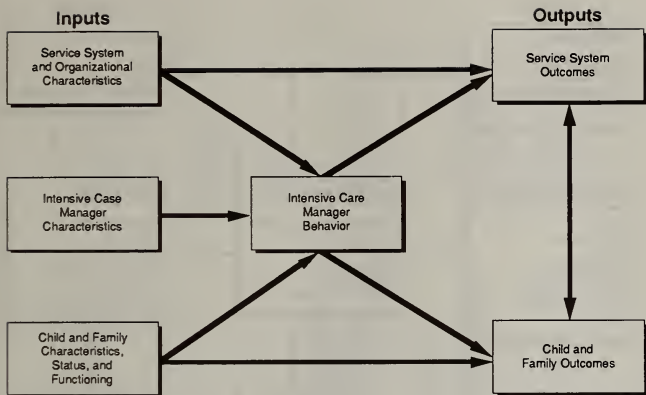


FIGURE 1. *Logic model for the evaluation of CYICM*

SOURCE: Huz et al. 1990

INSTRUMENTATION

The instruments employed in the evaluation of CYICM using the second strategy identified above include the CDF, PTF, and BSF developed jointly by program and research staff at OMH. Additional data on children hospitalized in State-operated psychiatric centers are available through the Department of Mental Hygiene Information System. Also, the evaluation staff has requested permission to access the State's Medicaid Management Information System to more fully explore the use of services by children who are Medicaid-eligible.

The strongest test of an intensive case management program is being conducted through a funded research project on FCICM, and a battery of instruments has been compiled to test the study's hypotheses. A listing of the instruments and their schedule for use appears as table 2. The service system is being described and key informants' opinions about it are being assessed through use of an instrument developed by the research team, based on work done by Morrissey and colleagues (1990). This instrument, *Assessing the System of Care for Children with Serious Emotional Disturbance* (New York

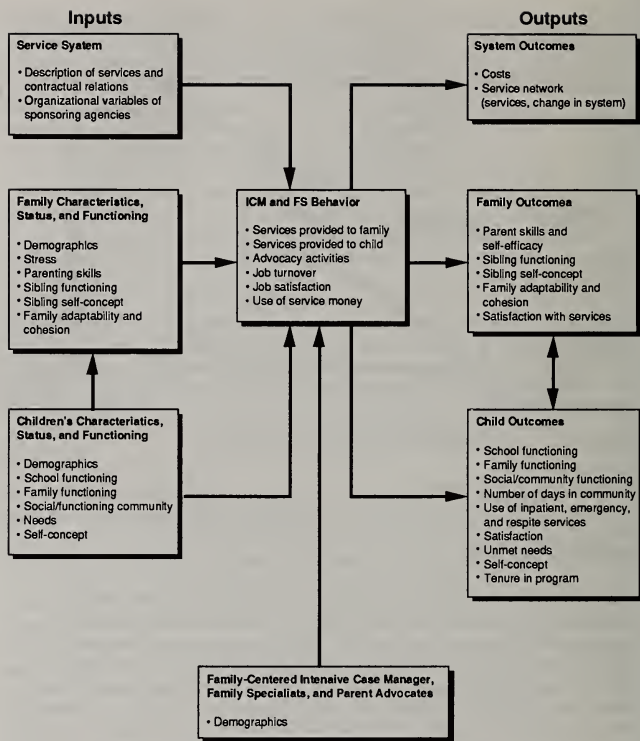


FIGURE 2. *Logic model of the research*

State Office of Mental Health 1991b), was pilot tested in a nonstudy county before its use in the three study counties. A snowball sampling technique is used to identify providers, parents, and other key informants who record their perceptions of the nature and adequacy of the local service system. The form is completed annually over the 3-year study period.

TABLE 2. Timeline for administration of evaluation of tools

Date	What Is Measured	Measurement Tools	Respondent
10/90-11/90	Assessing of local service system (Time 1)	Assessing the System of Care for Children with Serious Emotional Disturbance	County MH directors OMH regional office Provider agency staff Informed citizens
3/91	Human resource data collection	Human Resources Questionnaire	FCICM/FS/PA
10/91-9/92	Provider behavior	Daily Activity Log Activity Time Log Advocacy Log Casework Contact Form	FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA
3/91-7/91	Initial assessment of children and families	CDF BSF Parenting Skills Index Child and Adolescent Functional Assessment Scale Child Behavior Checklist Teacher Report Form Piers-Harris Children's Self-Concept Scale FACES III Parent and Child (Self-Efficacy) Form	FCICM/FS FCICM/FS FCICM/FS FCICM/FS Parent Teacher Proband child and siblings Parents and siblings over 12 Parents
10/91-11/91	Assessment of local service system (Time 2)	Assessing the System of Care for Children with Serious Emotional Disturbance	County MH directors OMH regional office Provider agency staff Informed citizens
10/92-9/93	Provider behavior	Daily Activity Log Activity Time Log Advocacy Log Casework Contact Form	FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA

TABLE 2. (continued)

10/91-1/92	6-month followup assessment of child/family	Client Follow-Up Form Parenting Skills Index	FCICM/FS FCICM/FS
4/92-7/92	1-year followup assessment of child/family	Client Follow-Up Form Parenting Skills Index Child and Adolescent Functional Assessment Scale Child Behavior Checklist Teacher Report Form Piers-Harris Children's Self-Concept Scale FACES III Parent and Child (Self-Efficacy) Form Job Description Index	FCICM/FS FCICM/FS FCICM/FS Parent Teacher Proband child and siblings Parents and siblings over 12 Parents FCICM/FS
10/92-11/92	Assessment of local service system (Time 3)	Assessing the System of Care for Children with Serious Emotional Disturbance	County MH directors OMH regional office Provider agency staff Informed citizens
10/92-7/93	Provider behavior	Daily Activity Log Activity Time Log Advocacy Log Casework Contact Form	FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA FCICM/FS/PA
10/92-1/93	18-month followup assessment of child/family	Client Follow-Up Form Parenting Skills Index	FCICM/FS FCICM/FS
4/93-6/93	6-month postservice assessment of child/family	Child Behavior Checklist Teacher Report Form Piers-Harris Children's Self-Concept Scale FACES III Parent and Child (Self-Efficacy) Form Job Description Index	Parent Teacher Proband child and siblings Parents and siblings over 12 Parents FCICM/FS/PA

KEY: FS=family specialist; MH=mental health

The CDF is used to collect a minimum data set on all children at the time of enrollment in the two interventions. The BSF is completed after 6 months, and the PTF is used on discharge. The Child Behavior Checklist for Ages 4-18 (Achenbach 1991a), completed by a parent, and the Teacher Report Form (Achenbach 1991b) are completed shortly after enrollment and approximately every 6 months thereafter. These instruments, along with the Child and Adolescent Functional Assessment Scale (Hodges 1990), provide information on the child's functioning in the home, community, and school. The Piers-Harris Children's Self-Concept Scale (Piers and Harris 1984) is completed by the proband child and by his or her siblings, ages 8 to 18, at two or more points in time.

Two measures of parenting skills are used in this study. The first, the Parenting Skills Index, comprises six scales selected from the Child Well-Being Scales (Magura and Moses 1986) and uses the provider of care to rate parenting skills. The second, Parent and Child (Self-Efficacy) Form (New York State Office of Mental Health 1991c), obtains information on parenting and parenting self-efficacy directly from the parents. The Family Adaptability and Cohesion Scale (FACES) III (Olson et al. 1985) is used to obtain information on family adaptability and cohesion at several points in time. It is completed by the parents and all siblings 12 years of age and older. The final parent and child outcome being measured is satisfaction with services, and instruments are being developed to measure this outcome. Because data are collected at several points in time, the evaluators are able to determine the system, child, and family outcomes associated with both the study's interventions.

Data are collected on providers of care, including FCICMs, FSs, and PAs, through use of a Human Resources Questionnaire for Community-Based Programs for Children and Adolescents (HRQ) (New York State Office of Mental Health 1990) and the Job Description Index (Smith et al. 1969). The former was developed by the Bureau of Evaluation and Services Research and is based on the minimum data set recommendations developed by Leginski and colleagues (1989), whereas the latter is a well-known and frequently used measure of job satisfaction. Providers of care are also keeping activity logs that will assist the researchers in describing the interventions and in completing a comparative cost study.

PRESENTATION OF DATA

Description of Adolescents Enrolled in CYICM

As of December 1, 1991, data were available for 581 adolescents enrolled in CYICM, of whom 130 (22 percent) had one of the following: a history of

treatment for alcohol or substance abuse, a DSM-III or DSM-III-R alcohol or other drug diagnosis or symptoms of alcohol or other drug abuse on admission, or a referral for alcohol or other substance abuse treatment on discharge.

Adolescents with alcohol or other drug problems are significantly ($p \leq 0.001$) older (15.9 years) than those without such problems (15.1 years). This age difference has implications in two areas: custody status and educational placement. Adolescents with substance abuse problems are more likely to be emancipated minors (6.9 percent) than their counterparts (2.2 percent), who are likely to be in the custody of their parents or other family members (79 vs. 86 percent, respectively).

Adolescent chemical abusers have problems educationally as well: 19.2 percent of youth with substance abuse problems are not enrolled in school, and only 1.5 percent have a high school diploma or general equivalency degree (GED), although 29 percent are legally required to attend school. Of those who are not enrolled in school ($n=25$), only one has a diploma or GED. Significantly ($p \leq 0.01$) more adolescents without substance abuse problems are enrolled in school.

Demographically, the two groups are also dissimilar. There are significantly ($p \leq 0.05$) fewer minorities among the abusers (78 percent white non-Hispanic) than the nonabusers (62.3 percent white non-Hispanic). There are roughly equal numbers of males and females among both group (52 percent male in the chemical abuse group and 57 percent male in the nonabusing group).

Although both groups are predominantly of lower socioeconomic status as indicated by the percentage who receive Medicaid benefits, the adolescents with substance abuse problems are significantly ($p \leq 0.01$) more likely to be covered by private third-party insurers (33.1 vs. 20.0 percent). This is one possible explanation for why chemical-abusing adolescents are more likely to be treated in private psychiatric facilities (21.9 vs. 13.6 percent) than are the nonabusing adolescents.

The treatment and placement histories of chemical-abusing adolescents are also quite different from those of the nonabusing group. Adolescents who abuse substances are more likely to have a history of at least one emergency room presentation due to psychiatric problems (67 percent) than their nonabusing counterparts (55 percent). They are slightly more likely to have spent time in a nonsecure or secure detention setting (5 vs. 2 percent), but this difference is nonsignificant.

Chemical-abusing adolescents seem to have greater contact with other child-serving systems than do nonabusers, with 24 percent of the abusers referred to CYICM from outside the mental health system ($p \leq 0.01$) and 14 percent in the custody of other systems. For nonabusers, 13 percent were referred from outside the mental health system and 13 percent were in the custody of other systems.

The problem behaviors and symptoms displayed by the abusing group are markedly different from those of the nonabusing group. Seventy percent of the abusing group display suicidal symptoms ($p \leq 0.01$) and 31.5 percent are acting out sexually ($p \leq 0.001$), but they display fewer developmental delays than the nonabusing cohort (8.5 percent, $p \leq 0.01$). Overall, the average number of symptoms and behaviors displayed is higher for abusers than for nonabusers (6.2 vs. 4.7, $p \leq 0.001$). Although both groups are functionally impaired in 2.5 areas, the abusing group has a more difficult time with self-direction (87.7 vs. 72.1 percent, $p \leq 0.001$).

A major goal of CYICM is to prevent unnecessarily restrictive placements. One measure of this is to look at the change in living situation between admission and discharge. The authors have defined the least restrictive environment as independent living and as living with natural or adoptive parents or with extended family members. The next higher category of restrictive placement is foster care, followed by group home placement and institutional living. For both the abusing ($n=46$, $p \leq 0.001$, chi-square=48.4) and the nonabusing ($n=115$, $p \leq 0.001$, chi-square=64.6) groups, the living situation on discharge was significantly different from the living situation on admission (figure 3).

For the abusing group ($n=46$), 76 percent had no change in living situation between admission and discharge, 2 percent moved to a less restrictive placement, and 22 percent moved to a more restrictive placement. For comparison purposes, 68 percent of the nonabusing group ($n=115$) had no change between admission and discharge, 8 percent moved to less restrictive settings, and 24 percent moved to more restrictive placements. There was no statistical difference between abusers and nonabusers in changes in living situation.

Related to the goal of preventing unnecessarily restrictive placements is reducing the number of days spent in inpatient settings. The analysis of these data for the period ranging from 6 months prior to 6 months postenrollment in CYICM shows that 74 percent of all State inpatient admissions among the abusing cohort ($n=35$) were within the 6 months prior to their enrollment in CYICM, whereas 26 percent were within the 6 months postenrollment. Sixty-

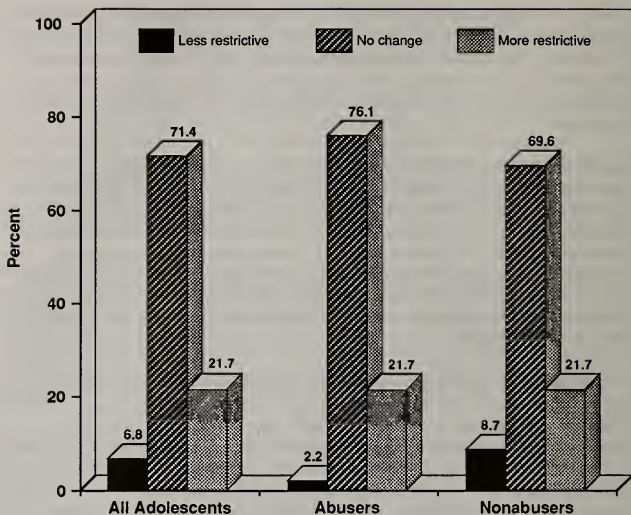


FIGURE 3. *Change in restrictiveness of living situation*

eight percent of all inpatient admissions among the nonabusing group ($n=69$) were within the 6 months preceding their enrollment, and 32 percent within 6 months postenrollment (figure 4).

In terms of the number of days spent in State hospitals, the abusing group spent 1,582 (89 percent) days in the hospital before enrollment and 192 (11 percent) following enrollment. The nonabusing group spent 5,666 (78 percent) of total hospital days before CYICM and 1,575 (22 percent) after enrollment (figure 5).

The data for both groups show that enrollment in CYICM is associated with decreased hospitalization of high-risk children, but the authors are not able to attribute causation to the intervention because the findings were observed in the absence of a comparison group. Targeted statistical analyses are under way to examine changes in the slope of the regression line over time.

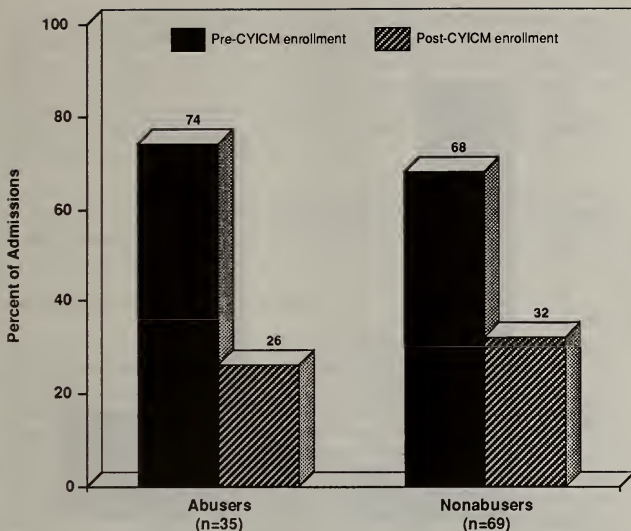


FIGURE 4. *Number of inpatient admissions to State-operated facilities*

Description of Intensive Case Managers

This section presents a summary of the demographic characteristics of intensive case managers serving children and adolescents. Data are being collected from intensive case managers to obtain an aggregate profile of the workforce. The HRQ developed by OMH's Bureau of Evaluation and Services Research (New York State Office of Mental Health 1990) collects demographic, educational, and experiential information from all intensive case managers. As of December 1, 1991, HRQs have been completed by 78 children and youth intensive case managers, 4 CYICM coordinators, and 4 CYICM supervisors, representing 33 counties. This represents 63 percent of filled positions. Respondents were from all five OMH regions.

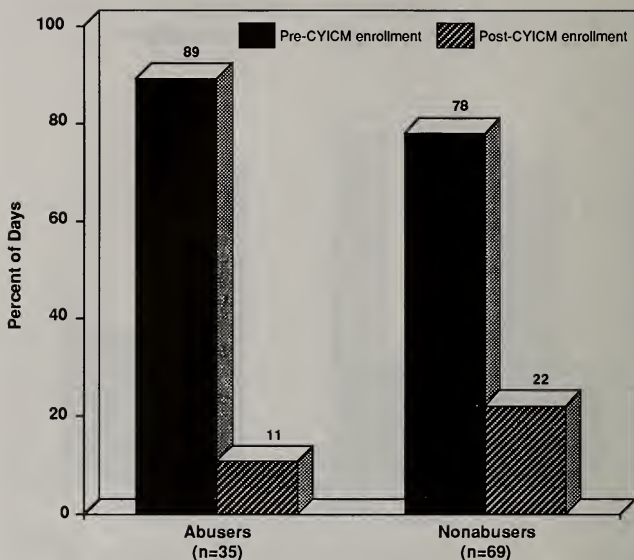


FIGURE 5. *Number of inpatient days spent in State-operated facilities*

Forty-two percent (n=35) of the intensive case managers report being employed by a local nonprofit agency, 36 percent by a State-operated program, 21 percent by local government, and the remaining 1 percent by local for-profit or other types of agencies.

Typically, intensive case managers and their supervisors tend to be white non-Hispanic (58 percent) and female (74 percent). Approximately 21 percent are black and 12 percent are of Hispanic origin, with higher percentages of minority case managers in New York City (28 percent black non-Hispanic, 4 percent other non-Hispanic, and 28 percent Hispanic) than upstate. Their average age when hired is 38, with a range of 23 to 61 years.

Most intensive case managers and their supervisors have attained master's degrees (64 percent), and 37 percent hold bachelor's degrees as their highest degree. Overall, 45 percent earned their degrees in clinical or nonclinical social work, and 24 percent earned their degrees in mental health-related fields (e.g., clinical counseling). Intensive case managers have a great deal of work experience. Table 3 presents years of experience in inpatient, outpatient, and case management services.

Slightly more than 52 percent of intensive case managers have both inpatient and outpatient mental health experience, 46 percent have outpatient mental health experience only, and only 1.2 percent (1 intensive case manager) has inpatient experience only.

ASSESSING COST-EFFECTIVENESS

The most comprehensive assessment of the costs associated with CYICM is being conducted as part of Project FIRST. Several instruments have been developed by the research team and consultants to describe the interventions (i.e., Family-Based Treatment and Family-Centered Intensive Case Management) and to provide information necessary for determining the cost-effectiveness of both study interventions. The instruments include the Daily Activity Log, completed each day during the survey period except on the one day each week when the Activity Time Log, a more detailed reporting, is completed. An Advocacy Log, which seeks descriptions of the advocacy activities performed, is also used by service providers. Finally, a Casework Contact Form is used by providers to record daily contacts with or on behalf of the children and their families. This form provides information on the persons contacted and the mode of contact.

TABLE 3. *Mental health experience of intensive case managers (by years of experience)*

Area of Expertise*	Average	Range
Inpatient	3.3	0-23
Outpatient	5.3	0-24
Case management	2.8	0-17
Children's inpatient	2.4	0-14
Children's outpatient	5.7	0-24

*These categories are not mutually exclusive.

The cost analysis focuses primarily on the direct labor costs associated with caring for children with SED in each model. The analysis also makes comparisons of other costs associated with delivery of care, including transportation, child care costs for siblings, training materials, and supply costs. The end result of the cost analysis will be the ability to estimate the total cost of delivering care under each of the two models, identifying and evaluating the cost components of each model, and identifying the costs of specific services such as training and respite care.

PROBLEMS IN CONDUCTING RESEARCH

To date, the greatest difficulty in conducting research on case management in New York State has been the identification of an equivalent comparison group. To control nonprogram sources of variance, children should be randomly assigned to treatment conditions. In practice, this is not always feasible. It is most feasible when outside funding is used to establish new programs or when several state-of-the-art treatment programs are available for random assignment of children and no one is assigned to a no-treatment condition.

The comprehensiveness of the study of CYICM introduces difficulties in obtaining permission to study child and family outcomes. It is relatively easy for the evaluation staff to obtain a minimum data set on all children enrolled in ICM, but it is much more difficult to obtain supplementary materials on children and, particularly, on families without an outside funding source. Case managers find the additional time and paperwork burdensome and are often unable to obtain data from teachers and other nonfamily members within their working hours. The administration of study instruments creates additional time and paperwork burdens for case managers. As presently designed, the CYICM model focuses on the child rather than on the family unit. Additional personnel resources are likely to be necessary in decreasing caseload size and in facilitating additional data collection in families served.

The length of time required to implement complex interventions was underestimated. There are numerous political, fiscal, and other systems factors that slow implementation. These issues arise at all levels involved: national, State, regional, and local. Based on the authors' experience with Project FIRST, it is preferable to conduct a process evaluation for at least 1 year during implementation. In addition, the window of observation should be as long as possible to truly assess program attrition and longer term outcomes of the intervention. Goering and coworkers' (1988) study of case management, for example, found that case management and control groups did not differ on some outcomes until the 2-year followup period.

Two additional barriers to conducting research on case management are the time and paperwork burdens associated with institutional review board (IRB) examination of human subjects issues and obtaining relevant data sets from other State agencies. Whenever research is undertaken, one or more IRBs are involved in reviewing the procedures for protection of human subjects. OMH's central office IRB reviews these procedures, but sometimes one or more agencies ask to have the procedures reviewed by their IRB or refuse to release information on the grounds that it violates client confidentiality. Because our CYICM program is statewide, dealing with issues related to protection of human subjects can be very time consuming. In relation to obtaining relevant data sets from other State agencies, OMH does not have access to general hospital data or to Medicaid data except through petitions to review committees in other State agencies. Again, this is time consuming and not always productive in regard to the program staff's ability to access data.

SUMMARY AND IMPLICATIONS

This chapter has presented an overview of New York State's CYICM program. This client-centered, linkage- and advocacy-focused model of case management has been implemented in 35 counties in the State and has provided service to 581 adolescents. The program uses a caseload ratio of 1:10 and targets children and adolescents with SED, some of whom also have problems with chemical abuse. Case managers have flexible service dollars available for use in meeting the needs of individual children and of the target population of children.

The identified barriers to model development cluster around issues related to the application of a model designed for adults to a population of children and adolescents. The efficacy of modifications, such as lower caseload, use of a PA, and parent support groups, is under study.

Gaps in services are primarily addressed through use of flexible service dollars to stimulate the development of needed services and through advocacy activities of the intensive case managers. Linkages with other community agencies are accomplished through individual case manager contact, interagency rostering committees at the county level, and coordination of child-serving agencies at the State level.

The authors' research strategies have involved descriptive studies, program evaluation, and funded research. All these efforts are guided by a heuristic model of mental health services research (Shern et al. 1992) and make use of minimum data sets, often enhanced by concurrent use of other assessment instruments.

In this chapter, the authors have presented a comparison of adolescents enrolled in CYICM who abuse chemicals (n=130) with nonabuser enrollees (n=451). The chemical abusers were more likely to be emancipated minors, were not enrolled in school, were less likely to be members of minority groups, and were more likely to be covered by private third-party insurers. Chemical abusers were more likely to be admitted to private psychiatric facilities, were more likely to use emergency rooms, and had greater contact with other child-serving systems. Finally, chemical abusers displayed a greater number of and a different constellation of problem behaviors and symptoms, primarily suicidal behavior or ideation and sexual acting out, than did nonabusers. Similar to nonabusers, following their enrollment in CYICM the abusing group spent significantly fewer days in State inpatient hospitals and had fewer numbers of admissions than they had experienced in the year prior to enrollment.

Because of the client-centered nature of CYICM and the generally positive outcomes, the authors have not felt it necessary to make system-wide changes in the program model to accommodate the subpopulation (22 percent) of adolescents who are identified as chemical abusers. However, serving this subgroup within CYICM does have some implications for program managers and intensive case managers. These implications include the need for accurate and ongoing assessment of clients accepted into CYICM and the necessity of continuing to work toward greater interagency coordination so that the needs of adolescents who abuse chemical substances will be met.

REFERENCES

- Achenbach, T.M. *Child Behavior Checklist for Ages 4-18*. Burlington, VT: University of Vermont, 1991a.
- Achenbach, T.M. *Teacher Report Form*. Burlington, VT: University of Vermont, 1991b.
- Anthony, W.A.; Cohen, M.; Farkas, M.; and Cohen, B.F. Clinical care update: The chronically mentally ill: Case management—more than a response to a dysfunctional system. *Community Ment Health J* 24(3):219-288, 1988.
- Donahue, S.A.; Martin, R.J.; and Pulice, R.T. *Adult Intensive Case Management*. Albany, NY: New York State Office of Mental Health, Bureau of Services and Evaluation Research, 1989.
- Evans, M.E. "Outcomes of 2 Intensive Service Programs for Children." Grant proposal (1 R18 MH-48072), submitted to the National Institute of Mental Health, Rockville, MD, June 1990.
- Evans, M.E.; Dollard, N.; and Huz, S. "Outcomes of Children and Youth Intensive Case Management." Paper presented at the 119th Annual Meeting of the American Public Health Association, Atlanta, GA, November 10-14, 1991.

- Friedman, R.M., and Duchnowski, A.J. Children's mental health: Challenges for the nineties. *J Ment Health Admin* 17(1):3-12, 1990.
- Friesen, B., and Koroloff, N. Family-centered services: Implications for mental health administration and research. *J Ment Health Admin* 17(1):13-26, 1990.
- Goering, P.N.; Wasylenski, D.A.; Farkas, M.; Lancee, W.J.; and Ballantyne, R. What difference does case management make? *Hosp Community Psychiatry* 39(3):272-276, 1988.
- Harris, M., and Bergman, H.C. Misconceptions about use of case management services by the chronically mentally ill: A utilization analysis. *Hosp Community Psychiatry* 39(12):1276-1280, 1988.
- Henderson, M., and Wallack, S. Evaluating case management for catastrophic illness. *Business Health* 4(3):7-11, 1987.
- Hodges, K. *Child and Adolescent Functional Assessment Scale*. Ann Arbor, MI: Eastern Michigan University, 1990.
- Huz, S.; Dollard, N.; and Evans, M.E. *Evaluation of Intensive Case Management for Children and Youth, First Year Final Report*. Albany, NY: New York State Office of Mental Health, Bureau of Evaluation and Services Research, 1990.
- Huz, S., and Pulice, R.T. *CSS Evaluation Report: An Evaluation of CSS Case Management Service Delivery*. Albany, NY: New York State Office of Mental Health, Bureau of Evaluation and Services Research, 1988.
- Knitzer, J. *Unclaimed Children*. Washington, DC: Children's Defense Fund, 1982.
- Leginski, W.A.; Croze, C.; Driggers, J.; Dumpman, S.; Geertsens, D.; Kamis-Gould, E.; Namerow, M.J.; Patton, R.E.; Wilson, N.Z.; and Wurster, C.R. *Data Standards for Mental Health Decision Support Systems*. Mental Health Service System Reports, Series FN. DHHS Pub. No. (ADM)89-1589. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1989.
- Magura, M., and Moses, B.S. *Outcome Measures for Child Welfare Services*. Washington, DC: Child Welfare League of America, 1986.
- Morrissey, J.P.; Muschkin, C.; Franks, D.; Ridgely, M.S.; and Goldman, H.H. "Client Needs Service System Characteristics, and Mental Health Authority Performance: An Interim Report From the Site-Level Evaluation of the Robert Wood Johnson Foundation Program on Chronic Mental Illness." Chapel Hill, NC, November 1, 1990.
- New York State Data Center. "1990 Census of Population and Housing Summary Characteristics for New York State Counties." New York State Department of Economic Development, 1990.
- New York State Office of Mental Health. *Program Guidelines—Intensive Case Management for Children and Youth*. Albany, NY: New York State Office of Mental Health, Bureau of Children and Families, August 17, 1989.
- New York State Office of Mental Health. *Human Resources Questionnaire for Community-Based Programs for Children and Adolescents*. Albany, NY: New

- York State Office of Mental Health, Bureau of Evaluation and Services Research, 1990.
- New York State Office of Mental Health. *Assessing the System of Care for Children With Serious Emotional Disturbance*. Albany, NY: New York State Office of Mental Health, Bureau of Evaluation and Services Research, 1991b.
- New York State Office of Mental Health. *Parent and Child (Self-Efficacy) Form*. Albany, NY: New York State Office of Mental Health, Bureau of Evaluation and Services Research, 1991c.
- New York State Office of Mental Health. *Statewide Comprehensive Plan for Mental Health Services, 1992-1996*. Albany, NY: New York State Office of Mental Health, Bureau of Planning Assistance Coordination, 1991a.
- 1975 Education for All Handicapped Children Act. Public Law 94-142, 1975.
- Olson, D.H.; Portner, J.; and Lavee, Y. *Family Adaptability and Cohesion Scales (FACES) III*. St. Paul, MN: University of Minnesota, Family Social Science, 1985.
- Philadelphia Three Year Plan. *Community Mental Health/Mental Retardation Program, July 1, 1986-June 30, 1989*. Philadelphia, PA: Philadelphia Office of Mental Health and Mental Retardation, 1986.
- Piers, E.V., and Harris, D.B. *Piers-Harris Children's Self-Concept Scale*. Los Angeles, CA: Western Psychological Services, 1984.
- Rapp, C., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30(5):417-422, 1985.
- Rodriguez, A., and Maher, J. Psychiatric case management offers cost, quality control. *Business Health* 3(4):14-17, 1986.
- Rose, S.M., and Black, B.L. *Advocacy and Empowerment: Mental Health Care in the Community*. Boston, MA: Routledge & Kegan Paul, 1985.
- Shern, D.L.; Evans, M.E.; and Veysey, B.M. Human resource, program, and client correlates of mental health outcomes. In: Jacobson, J.W.; Burchard, S.N.; and Carling, P.J., eds. *Community Living for People with Developmental and Psychiatric Disabilities*. Baltimore, MD: Johns Hopkins University Press, 1992. pp. 263-283.
- Smith, P.; Kendall, L.; and Hulin, C. *The Measurement of Satisfaction in Work and Retirement: A Strategy for the Study of Attitudes*. Chicago, IL: Rand McNally, 1969.
- Stein, L.I., and Test, M.A. Alternative to mental hospital treatment. I. Conceptual model, treatment program and clinical evaluation. *Arch Gen Psychiatry* 37:392-397, 1980.
- Sullivan, J.P. Case management. In: Talbott, J.A., ed. *The Chronically Mentally III*. New York: Human Sciences Press, 1981.
- Surles, R.C., and Blanch, A.K. "Case Management as a Strategy for Systems Change." Paper presented at Innovation and Management in Public Mental Health Systems, Philadelphia, PA, November 14, 1989.

Surles, R.C.; Blanch, A.K.; Shern, D.L.; and Donahue, S.A. Case management as a strategy for systems change. *Health Aff (Millwood)* 11(1):151-163, 1992.

Willie M. v. Hunt. 732F. 2nd 383, 4th Cir, North Carolina, 1984.

Witheridge, T.F., and Dincin, J. The bridge: An assertive outreach program in an urban setting. In: Stein, L.I., and Test, M.A., eds. *The Training in Community Living Model: A Decade of Experience*. New Directions for Mental Health Services, No. 26. San Francisco: Jossey-Bass, 1985.

ACKNOWLEDGMENTS

The authors acknowledge their colleagues Mary Armstrong, Caren Cavitch, Steven Huz, and Donald Rahn at the Bureau of Children and Families and the Bureau of Evaluation and Services Research for their assistance with the conceptualization and conduct of this and other work related to the evaluation of Intensive Case Management.

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Case Management as a Mechanism for Linking Drug Abuse Treatment and Primary Care: Preliminary Evidence From the ADAMHA/HRSA Linkage Demonstration

William E. Schlenger, Larry A. Kroutil, and E. Joyce Roland

INTRODUCTION

The continuing acquired immunodeficiency syndrome (AIDS) epidemic is bringing about major changes in the delivery of both primary care and drug abuse treatment. Because they engage in a variety of high-risk behaviors, drug users put themselves, their sexual partners, and their children at risk for exposure to human immunodeficiency virus (HIV) infection—and therefore, ultimately, to the development of AIDS—and to a variety of other infectious diseases (e.g., other sexually transmitted diseases, hepatitis B, tuberculosis). Drug users are at higher risk of being infected with these diseases and passing them on to other people through a variety of mechanisms, including needle sharing, trading sex for drugs, having sex with multiple partners, and perinatal transmission. Therefore, drug users as a group are in need of direct treatment and are an important target for preventive public health efforts.

Consequently, increased attention is being paid to the relationship between the substance abuse treatment and primary care systems. To foster the development and testing of models for improved linkage between the two systems, the Federal agencies with lead responsibilities for substance abuse treatment and primary care—the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) and the Health Resources and Services Administration (HRSA)—agreed to create a 3-year demonstration program. The goals of the ADAMHA/HRSA Linkage Demonstration are as follows:

- To recognize and treat the health care problems of drug abuse treatment clients

- To recognize and treat substance abuse in the context of the primary care system
- To identify feasible approaches to the provision of integrated health care in the context of existing community-based services

In August 1989, 21 applications were selected to be funded under the demonstration, for a total of about \$9 million per year. The 21 grantees are located in 19 cities and 15 States across the country. About one-third of the grantees are community health centers; another third are city or county health departments; and the remaining third are other agency types (usually hospitals or State agencies). In only one instance is the primary grantee a drug treatment program, but all projects include both community-based drug treatment and primary care components. Grant awards for the first year varied from about \$170,000 to \$600,000.

In addition, ADAMHA funded separately an independent evaluation of the demonstration—the National Evaluation of Models for Linking Drug Abuse Treatment and Primary Care (National Evaluation). The primary objective of the National Evaluation is to identify and describe promising models for linking drug abuse treatment and primary care. As a result, the National Evaluation is focused on process questions: To what extent are the alternative linkage models able to provide primary care and drug abuse treatment to people who are in need of both kinds of services? This reflects a purposeful decision on the part of ADAMHA: Given the relatively limited current knowledge concerning "what works" in comprehensive service delivery and the fact that the Linkage Demonstration did not include any requirements for experimental design, the evaluation should be descriptive and focused on identifying and describing promising models whose efficacy could be studied more rigorously in subsequent demonstrations.

The National Evaluation represents an unusual opportunity to study case management and drug treatment because all 21 projects proposed to use case management as a mechanism for achieving linkage and, in some projects, it was the primary or sole mechanism. Case management is a strategy increasingly being employed in settings where the service needs of the target population are complex, service systems are highly bureaucratized, and resources are fragmented. Although the concept of case management has received increasing attention as a means of improving the delivery of a variety of health and social services, its application in drug abuse treatment programs, and particularly in programs focusing on linking drug abuse and primary care services, has not been systematically studied. The National Evaluation provides the opportunity to study the role and function of case

management in a variety of promising service models in a variety of organizational settings.

This chapter presents preliminary findings from the National Evaluation that describe the delivery of drug abuse treatment, primary care, and other services to demonstration clients. In addition, preliminary evidence is presented concerning the relationship between services received and case management.

METHODS

Procedures

In the first phase of the National Evaluation, data describing clients' sociodemographic characteristics, treatment needs, and services received were abstracted from the clinical records of "identified clients" of each of the 21 demonstration projects who were enrolled in the demonstration during 1990. An "identified client" was defined as anyone who was served during 1990 by any of the providers participating in the demonstration project and who was identified as having both drug treatment needs and health care needs.

It was recognized from the outset that there would be substantial variability both in the record systems of the specific providers within a project and across projects. To increase the likelihood that projects' records would contain the data of interest to the evaluation, the National Evaluation specified in advance a "core data set" that identified basic information that all projects would be required to maintain in their records.

A record abstraction form was developed that was used at all 21 sites to record data. The abstraction form included sociodemographic characteristics, drug use and health problems histories, identified service needs and treatment plans, and treatment and services received.

Data were abstracted by local abstractors who were hired and trained by the National Evaluation team. The two major qualifications for abstractors were (1) some clinical background in drug abuse treatment or primary care and (2) familiarity with the record systems of participating providers. Abstractor candidates were identified by local project directors, and those selected attended a 1-day training session conducted by the National Evaluation team. Abstraction forms were sent to the National Evaluation team by abstractors on a flow basis and were edited carefully as they came in so that feedback could be provided quickly to abstractors concerning any problems.

The 2,409 forms received from the 21 projects were keyed and analyzed centrally by the National Evaluation team.

The analyses presented in this chapter are multiway cross-tabulations. Findings are presented separately for those who were identified through primary care vs. those who were identified through drug abuse treatment. These two groups were separated because preliminary analyses of their characteristics suggested that those identified through primary care differed from those identified through drug abuse treatment. The differences were consistent with the "earlier intervention" hypothesis—those identified through primary care were younger, less likely to have had prior drug abuse treatment, more likely to identify marijuana or alcohol as their primary drug (vs. heroin and cocaine for those identified through drug treatment), and more likely to receive outpatient drug-free treatment (vs. methadone maintenance).

Findings are also provided separately for clients served by projects with differing linkage models. Although there are many ways to conceptualize the notion of "linkage" of drug abuse treatment and primary care, for the analyses presented here the authors used a conceptualization based on the perspective of the service user. That is, can clients receive many primary care and drug abuse treatment services at a single location, or must clients go to multiple locations to receive needed services? Findings are presented separately for clients served by projects implementing "centralized" vs. "decentralized" models. Centralized projects are those in which most primary care and drug abuse treatment services are offered at a *single* location (i.e., "one-stop shopping"), whereas decentralized projects offer most primary care and drug abuse treatment services at *different* locations (e.g., clients may give a medical or drug abuse history at a single location but must go to different locations for a more extensive workup and treatment services).

We recognize that, in practice, it is probably not feasible to establish a "pure" centralized system in which all services that a client might need are available at a single location. For the purposes of this classification, we consider a project to be implementing a centralized model if clients can be assessed and treated for both primary care and substance abuse problems at a single location.

Five projects in the Linkage Demonstration are best described as centralized and five as decentralized. An example of a centralized model is the Seattle/King County project. In this project, the grantee has placed nurse practitioners onsite at the drug treatment facilities to conduct assessments and "provide as much health care as possible onsite before referring to the linked clinic for followup and ongoing care." Similarly, drug treatment counselors have been

established in the participating primary care clinics. Although it is intended that these counselors refer patients to drug treatment when a problem is identified, they begin the process of counseling within primary care. Furthermore, at one of the project sites, a drug-free program and a medical clinic are located in the same building.

An example of a decentralized model is provided by the project being conducted by the Maricopa County Public Health Department in Phoenix, AZ. In this project, primary care, outpatient drug-free, and methadone maintenance services are offered at different locations, with case managers designed to play a key role in intake and referral to the appropriate providers.

Limitations

The scope of this chapter and of the National Evaluation are limited in several ways. First, the chapter is largely descriptive. It is intended to provide a broad base of descriptive information about the Linkage Demonstration.

Second, the National Evaluation was designed to take account of an important constraint that results from the fact that no experimental design was built into the Linkage Demonstration. That is, grantees were not required to have experimental or quasi-experimental comparison groups as part of the demonstration; rather, the grantees were simply to focus on implementing model approaches for providing linked services. This is an important reason for the descriptive focus of the evaluation.

Third, as is typical of demonstration programs, the projects involved in this study were not selected at random; rather, they were selected on the basis of a competitive, peer-reviewed process. Consequently, they are neither representative of the universe of drug abuse treatment and primary care programs, nor do they necessarily represent the full range of possible approaches to linkage. The demonstration projects that are studied in this chapter are best understood as examples of potential approaches to linkage and the findings as preliminary information about their implementation. This is consistent with the National Evaluation's overall goal of identifying feasible and promising models of linkage.

Fourth, it is important to remember that the projects involved in the demonstration are not implementing a common intervention. Instead, each is implementing its own intervention in an attempt to identify promising approaches. Consequently, pooling across projects may obscure some true differences and exaggerate some spurious differences.

Finally, because the findings presented in this chapter are derived primarily from information abstracted from client records, they are subject to all the limitations inherent in record-based studies. Foremost among these is the failure to document in the records everything that is known or done, rendering the records an incomplete subset of the "true" characteristics and services received. Therefore, the tabulations presented here are probably best understood as lower bound estimates. That is, positive indications in the record suggest that an event happened, but negative indications do not necessarily mean that it did not.

RESULTS

Services Received

The first question addressed in this chapter is: What kinds of services are Linkage Demonstration clients receiving? Table 1 shows the distribution of the type of drug treatment that clients received. Findings indicate that those who are identified through drug abuse treatment are more likely than those who are identified through primary care to receive drug abuse treatment; more than 90 percent of those identified through drug treatment received some type of treatment vs. 30 to 60 percent of those identified through primary care. The findings also suggest a substantial advantage to a centralized model for identification through primary care, because clients identified in centralized model projects were nearly twice as likely to receive treatment as those identified in decentralized models (65 vs. 31 percent for any treatment, 59 vs. 30 percent for any formal rehabilitation).

Table 2 shows the distribution of amount of formal drug treatment received, operationalized as the number of months during which a client actively participated in formal treatment. Findings indicate that 41 to 70 percent of Linkage Demonstration clients enrolled through primary care received no formal drug abuse treatment. In addition, another 16 to 18 percent of those enrolled through primary care stayed in formal treatment 1 month or less. These findings contrast sharply with those for clients enrolled through drug abuse treatment, where, typically, fewer than 1 in 10 received no formal treatment and the majority remained in treatment for at least 4 months.

The findings also suggest a substantial advantage for centralized over decentralized models in providing drug abuse treatment to those identified through primary care. Seventy percent of those identified through primary care in decentralized programs received no formal drug abuse treatment, and less than 10 percent remained in formal treatment for 4 months or longer. By contrast, 41 percent of those identified in centralized programs received no

TABLE 1. *Drug abuse treatment received by Linkage Demonstration clients, by point of enrollment and linkage model*

Group	Unweighted N	Any Drug Treatment (%)	Detoxification (%)	Self-Help (%)	Acupuncture (%)
Enrolled through primary care					
Centralized	110	64.5	6.4	21.8	0.0
Decentralized	266	30.8	1.1	4.9	0.0
Enrolled through drug abuse treatment					
Centralized	566	92.0	13.4	46.5	1.4
Decentralized	228	97.4	7.9	21.5	0.0
Formal Rehabilitation					
Group	Any Formal Rehabilitation (%)	Outpatient Drug-Free (%)	Methadone (%)	Residential (%)	Other (%)
Enrolled through primary care					
Centralized	59.1	27.3	10.9	4.5	29.1
Decentralized	30.1	27.8	1.5	1.1	1.1
Enrolled through drug abuse treatment					
Centralized	86.6	52.5	15.2	17.7	15.5
Decentralized	95.6	57.5	39.5	1.8	1.8

TABLE 2. *Time in formal drug abuse treatment (months) for Linkage Demonstration clients, by point of enrollment and linkage model*

Group	Unweighted N	No Formal Treatment (%)	1 Month or Less (%)	2-3 Months (%)	4-6 Months (%)	7-12 Months (%)
Enrolled through primary care						
Centralized	110	40.9	18.2	12.7	10.9	17.3
Decentralized	266	69.9	15.8	6.8	4.9	2.6
Enrolled through drug abuse treatment						
Centralized	566	13.4	19.1	26.0	18.4	23.1
Decentralized	228	4.4	30.7	25.0	19.3	20.6

formal treatment, and nearly 30 percent remained in treatment 4 months or longer.

Table 3 shows the distribution of the kinds of primary care services received by Linkage Demonstration clients. Findings indicate that most clients enrolled in the Linkage Demonstration received some kind of primary care services regardless of where they were enrolled and that the services most frequently received included HIV prophylaxis (e.g., a primary prevention intervention, such as a condom-use or needle-cleaning intervention, or a secondary prevention intervention, such as aerosolized pentamidine), health education, treatment for chronic conditions, and nutritional services.

Table 4 shows the distribution of the kinds of social and support services received by Linkage Demonstration clients. Among those enrolled through primary care, 25 to 32 percent received at least one such service. Among the specific services, family counseling, transportation assistance, and "other" were among those most frequently received. Those enrolled through drug treatment, however, seem more likely to have received social and support services: Thirty-one to seventy percent received at least one such service. In addition, there appears to be a substantial advantage to decentralized models in the provision of social and support services to drug treatment clients, because they were more than twice as likely to receive at least one such service than those treated through centralized projects.

Relationship to Case Management

The second question addressed in this chapter is: Given that clients are receiving services, is there any relationship between the services they receive and case management? To examine this question, we added another dimension, representing the amount of case management received, to our tables. "Amount" of case management is operationalized as the number of months during which the client had at least one contact with his or her case manager.

Table 5 summarizes the relationship between case management received and the receipt of other services: drug abuse treatment (any treatment and any formal treatment), primary care, and "other" services. As might be expected, those who come seeking (i.e., are identified through) drug abuse treatment are more likely to receive at least some treatment than are those who come seeking primary care, regardless of linkage model or amount of case management received. More than 90 percent of those who are enrolled through drug abuse treatment receive some form of treatment, compared with as few as 16 percent of those enrolled through primary care.

TABLE 3. *Primary care services received by Linkage Demonstration clients, by point of enrollment and linkage model*

Group	Unweighted N	Any Service (%)	Treatment of Chronic Condition (%)	Family Planning/ Birth Control (%)	Prenatal/ Postpartum Care N/Percent* (%)	Dental Care (%)	Immunization (%)
Enrolled through primary care							
Centralized	110	77.3	30.0	12.1	66/24.2	4.5	10.0
Decentralized	266	97.7	15.4	56.5	115/8.7	4.1	6.0
Enrolled through drug abuse treatment							
Centralized	566	83.0	20.7	22.4	268/14.9	6.0	7.6
Decentralized	228	72.4	14.9	22.0	100/17.0	5.3	5.3
*Female clients only							
Group	Unweighted N	HIV Prophylaxis (%)	Nutritional Services (%)	Hospitalization (%)	Acute Care for Non-HIV Conditions (%)	Treatment of Opportunistic Infections (%)	ER Utilization (%)
Enrolled through primary care							
Centralized	110	29.1	20.9	8.2	8.2	0.9	2.7
Decentralized	266	26.7	4.1	1.5	13.5	0.0	1.9
Enrolled through drug abuse treatment							
Centralized	566	51.4	15.7	3.5	21.9	1.9	3.7
Decentralized	228	30.3	13.2	7.0	10.1	0.4	2.2
Group	Unweighted N	Health Education (%)	Other (%)				
Enrolled through primary care							
Centralized	110	19.1	22.7				
Decentralized	266	82.0	71.4				
Enrolled through drug abuse treatment							
Centralized	566	30.0	33.9				
Decentralized	228	44.0	29.4				

TABLE 4. *Other services received by Linkage Demonstration clients, by point of enrollment and linkage model*

Group	Unweighted N	Any Service (%)	Family Counseling (%)	Transportation Assistance (%)	Entitlement Assistance (%)	
Enrolled through primary care						
Centralized	110	24.5	4.5	1.8	4.5	
Decentralized	266	32.3	10.2	16.5	5.3	
Enrolled through drug abuse treatment						
Centralized	566	30.7	15.2	6.2	5.8	
Decentralized	228	70.2	13.6	49.6	39.0	
Group	Unweighted N	Financial Assistance (%)	Child Care (%)	Employment Assistance (%)	Housing Assistance (%)	Other (%)
Enrolled through primary care						
Centralized	110	1.8	1.8	2.7	6.4	10.0
Decentralized	266	9.8	1.1	10.9	6.4	13.9
Enrolled through drug treatment						
Centralized	566	2.7	1.2	3.9	3.9	9.4
Decentralized	228	33.8	3.1	32.0	26.8	37.7

TABLE 5. *Services received by Linkage Demonstration clients by linkage model, point of enrollment, and case management received (percent)*

Group	Any Drug Treatment	Any Formal Drug Treatment	Any Primary Care	Any "Other" Services
Enrolled through primary care				
Centralized				
CM for 1 month or less	61.7	56.8	72.8	18.5
CM for 2-6 months	68.2	59.1	86.4	31.8
CM for 7-12 months	*	*	*	*
Decentralized				
CM for 1 month or less	16.2	16.2	96.2	12.3
CM for 2-6 months	36.4	34.7	99.2	46.6
CM for 7-12 months	100.0	100.0	100.0	83.3
Enrolled through drug abuse treatment				
Centralized				
CM for 1 month or less	90.7	84.2	82.6	22.6
CM for 2-6 months	92.1	87.1	77.7	34.5
CM 7-12 months	100.0	100.0	98.3	71.7
Decentralized				
CM for 1 month or less	94.0	89.2	57.8	44.6
CM for 2-6 months	99.1	99.1	76.1	83.2
CM for 7-12 months	100.0	100.0	96.9	90.6

*Insufficient sample size

KEY: CM=case management

Table 5 also suggests a strong relationship between case management and drug abuse services received for those enrolled through primary care, particularly in decentralized projects, but not for those enrolled through drug abuse treatment. For those enrolled through primary care at decentralized projects, 16 percent who were case managed for 1 month or less received any drug treatment, compared with 36 percent of those who were case managed for 2 to 6 months. For those enrolled through drug abuse treatment, 90 percent or more received drug treatment regardless of the amount of case management received or the linkage model implemented.

In addition, table 5 shows the relationship between case management received and primary care services received. The findings indicate that those who receive more case management also receive more primary care, although the differences tend to be relatively small. In all conditions, virtually all those with the highest levels of case management received some kind of primary care service. The strongest relationship was for those enrolled through drug abuse treatment at decentralized linkage projects: 58 percent of those who were case managed for 1 month or less received some primary care service vs. 97 percent of those case managed for 7 or more months.

Table 5 also shows the relationship between case management received and social or support services received. The relationship with case management seems stronger for these services than for either drug abuse treatment or primary care. In all instances, substantially higher proportions of those with more case management received one or more social or support services. Typically, about one in five of those who were case managed for 1 month or less received one or more such services, compared with 70 to 90 percent of those who were case managed for 7 or more months.

DISCUSSION

Preliminary findings from the National Evaluation indicate that projects funded through the ADAMHA/HRSA Linkage Demonstration are delivering drug abuse treatment, primary care, and other services to people whom they identify as having both drug treatment and health care needs. These findings demonstrate the feasibility of identifying substance abuse problems in primary care settings and highlight the potential benefits of doing so. They also demonstrate the feasibility of providing primary care to drug abuse treatment clients and the range of health care needs that those clients have.

However, the findings identify a problem that remains to be addressed: how to engage and retain in drug treatment substance abusers who are identified via screening in the primary care context. Findings suggest that although the

demonstration projects recommended and offered treatment (through direct service or referral) to substance abusers whom they identified in primary care, many substance abusers never entered drug treatment, and those who did enter typically did not stay very long. Although findings from other analyses of National Evaluation data suggest the possibility that screening in primary care may result in earlier identification, it is clear that the engagement and retention in drug abuse treatment of substance abusers identified in primary care (earlier intervention) are important challenges that have not yet been adequately addressed. This suggests the possibility that substance abuse interventions different from those currently offered by drug treatment programs may be required to reach this group of clients.

Findings concerning the delivery of health care services to drug abuse treatment clients demonstrate the variety of health care needs that these clients have. Our findings are consistent with a growing literature that documents the physical health comorbidities of drug treatment clients. Findings of the National Evaluation concerning the delivery of health care to drug treatment clients suggest a potential advantage of centralized approaches to the delivery of such care.

Findings concerning the delivery of social and support services to Linkage Demonstration clients demonstrate that substance abusers typically have a variety of other social and life adjustment problems in addition to their substance abuse and health care needs. Services that have been provided to Linkage Demonstration clients include family counseling, employment assistance, transportation assistance, entitlement assistance, housing assistance, and child care. These findings are also consistent with the general notion of multiple comorbidities, that is, that a variety of personal and interpersonal problems frequently accompany drug abuse.

National Evaluation findings concerning case management, although preliminary, are encouraging. Findings suggest that, in general, those who receive more case management receive more services of all kinds—health care, drug abuse treatment, and other services. The relationship is particularly strong in decentralized models, where one would expect case management to play a more critical role in tracking patients, locating needed services, and facilitating patient compliance.

Because of the lack of experimental design in the Linkage Demonstration, it is not possible to attribute causality to the observed relationship between case management and other services received. That is, we cannot tell from the National Evaluation findings whether clients stay longer in treatment because of the case management services they received, or whether they received

more case management services because they stayed in treatment longer. Nevertheless, the findings are consistent with the hypothesis that case management leads to more effective service delivery and suggest that case management may play an important role in comprehensive service delivery. In addition, the findings suggest that case management is more important in decentralized models and may be most important in the delivery of services to meet clients' social and support service needs.

The findings presented in this chapter address only the most basic descriptive question about linkage and case management. We recognize that case management is sometimes in the eye of the beholder and that many different models of case management may have been applied by the different sites. In fact, little is known about the nature of the case management applied by the projects, about the characteristics of the case managers, or about many other details of how the services were delivered. However, these aspects are among the topics to be addressed in the second phase of the National Evaluation, in which we will conduct detailed case studies of a subset of the Linkage Demonstration projects. These case studies will permit us to attach "meat" to the service skeleton that has been outlined through descriptive analysis of the client record abstraction data in this first phase of the evaluation.

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Development and Implementation of an Interorganizational Case Management Model for Substance Users

Ellen P. McCarthy, Zoila Torres Feldman, and Benjamin F. Lewis

ORGANIZATIONAL ENVIRONMENT

The Linkage Program is an interorganizational effort to develop and evaluate a model for the provision of primary health care services to substance abusers and for the referral to appropriate substance abuse services of individuals identified as in need of treatment. In general terms, the target population comprises persons in Worcester, MA, who are injection drug users, their sexual contacts, and their children; pregnant addicts; and other drug users who are at risk of or already infected with the human immunodeficiency virus (HIV). Worcester is the second largest city in Massachusetts and New England, with a population of 175,000.

The central organizing and coordinating entity for the Linkage Program is the Great Brook Valley Health Center (GBVHC), a federally funded community health center whose mission includes serving populations who historically have not had access to health care. GBVHC serves a predominantly Hispanic population in and around a low-income housing project but also provides services citywide. Through these efforts, GBVHC has had considerable impact on the planning and development of general health, perinatal, prevention, and HIV-related services citywide and has had a history of working in and with the community to develop linkages necessary to maximize appropriate service delivery in an environment of limited resources.

The Linkage Program was developed and is carried out in an environment of preexisting interorganizational networking focused on HIV among intravenous drug users (IVDUs). Since 1986, and building on a citywide effort to combat a hepatitis B epidemic, the Worcester Health Department laid the groundwork for the Worcester AIDS Consortium (WAC), which is a loosely coupled network of agencies and institutions where members of the target population are likely to surface. The initial WAC organizations are listed below:

- Worcester Department of Public Health and Code Enforcement
- GBVHC—a community health center
- Spectrum Addiction Services (including inpatient detoxification, residential and outpatient methadone, and drug-free services)
- Worcester County House of Correction and Jail
- University of Massachusetts at Amherst, School of Public Health, Epidemiology Division
- AIDS Project Worcester—an advocacy and support agency

The primary goal of WAC has been to conduct an epidemiological surveillance of HIV and related drug use and sexual risk behaviors in the target population. Although not a service delivery system per se, various WAC agencies have provided HIV counseling, testing, priority access to drug abuse treatment, advocacy, and support for the target population of injection drug users and members of their social network. Some WAC agencies participate principally as part of their mission, such as the Worcester Health Department and community health centers, others in exchange for resources to provide services, such as drug abuse treatment programs and the County House of Correction. This context has been both a benefit and a barrier in achieving Linkage Program goals in terms of differences in mission, objectives, commitment of collaborating members, and experience with minority and culturally diverse populations.

LINKAGE GOALS

Notwithstanding these potential barriers, GBVHC saw the infrastructure created by WAC as a critical component of what could become an effective system for integrating primary health and substance abuse treatment services. Accordingly, the GBVHC's proposal sought to (1) increase the effectiveness of interaction between established primary care and substance abuse treatment providers and (2) recruit the participation of agencies that, although delivering neither service, were in a position to identify clients in need of both services. At the same time, GBVHC sought to (3) accelerate the readiness of community organizations to respond to the HIV epidemic. The Linkage Program is 1 of a total of 21 service demonstration projects and a subset of 8 community health centers funded nationally through this National Institute on Drug Abuse (NIDA)/Health Resources and Services Administration (HRSA) collaboration.

The underlying assumption guiding the development of both WAC and the Linkage Program was the acknowledgment that HIV is a preventable disease and that comprehensive, coordinated intervention efforts should be directed to infected individuals as well as to individuals at risk of infection. It was expected that the community health centers and other organizations were already caring for populations at risk or already infected, but had not yet had the opportunity or the resources to refine or more fully develop their system of care and to become responsive to the unique demands created by people affected by HIV disease. The Linkage Program sought to establish mechanisms to identify these individuals, link them with appropriate services while providing access to a comprehensive array of services, and increase communication among agencies to preclude the duplication of services. Through the implementation of the Linkage Program, the HIV surveillance structure created by WAC has been solidified and expanded into a solid delivery care system.

The primary objectives of the Linkage Program are as follows:

- Refer and admit clients from primary care into substance abuse treatment programs
- Refer and admit clients from substance abuse programs into primary care
- Refer and admit clients affected by HIV and receiving neither service into both services

A system of interorganizational case management or case coordination activities was designed and implemented to accomplish these objectives. This intervention model, implemented in a community context, was chosen as opposed to a centralized model, because it was conducive to addressing systemic issues of access and appropriateness of service. The centralized model, which locates primary health care in substance abuse treatment agencies or substance abuse services in community health centers, would not serve the community as a whole, but only those individuals who already had access to either service delivery system.

METHODOLOGY

The Linkage Program created a communitywide bilingual/bicultural case management system in the city of Worcester to operationalize the objectives necessary to integrate the services of these two traditionally separate systems. Thirteen key agencies providing services to the target population were approached and agreed to participate in the implementation of a model system of care:

- AIDS Project Worcester
- FAITH, Inc.
- Family Health and Social Service Center
- GBVHC
- Homeless Outreach and Advocacy Project (HOAP)
- Pakachoag Church
- The Medical Center of Central Massachusetts, Memorial: Prenatal Clinic
- Social Justice for Women/MCI Framingham
- Spectrum Addiction Services
- University of Massachusetts Medical Center, Clinic 7
- University of Massachusetts Medical Center, HIV Screening Clinic
- Worcester County House of Correction and Jail
- Y.O.U., Inc.

Among these were the WAC-affiliated health centers, drug treatment programs, and advocacy organizations. The structure of the Linkage Program also has an outreach component specifically targeted to access homeless, black, and gay populations. This particular component of the Linkage Program system complements the outreach efforts to the Hispanic community, which are primarily provided through the State-funded Latino AIDS Network, under the auspices of GBVHC.

A major goal of the Linkage Program is to institutionalize the model's service delivery system into the daily operations of each organization. Consistent with this goal, a pivotal component of the Linkage Program was to nurture and structure institutional commitment and ownership by participating agencies by entering into a contract with GBVHC for the provision of certain services. This method of contractual engagement, rather than placement of GBVHC employees at hosting sites, proved to be perhaps the most significant factor in gaining cooperation from network agencies. The contract enabled the participating agency to hire a Linkage Program case coordinator as an employee of the agency. This approach not only increased each agency's staff but also increased the level of supervision provided to the Linkage Program case coordinator by the collaborating agency.

Furthermore, a standard risk assessment, the Addiction Severity Index (ASI), and a referral procedure were institutionalized in each of the contracting institutions. Through the referral network of the Linkage Program, the agency is able to provide its clients benefits beyond the level possible by the actual dollar amount available to those individual organizations. The contractual agreements specify that each contracting organization must assess all its clients for their need for primary care and substance abuse treatment services and refer accordingly. The assumption supporting this mode of implementation was that

if integration of services is to be truly successful, it needs to happen regardless of grant-specific resources, and it needs to target a whole community.

In the Linkage Program, case management is defined as a professional service that includes assessment, development of an individualized service plan, service arrangement and continuing coordination, monitoring, periodic reassessment, advocacy, and quality assurance. This system of case management is considered both a process and an outcome. It is further defined as successful coordination of services by a cadre of uniformly trained bilingual case coordinators so that individuals at risk of or infected with HIV have the ability to access an integrated system of primary health care and substance abuse treatment. The case coordinator is the point of entry into the Linkage Program and acts as an intermediary to link the services of agencies in the community together so that the client has access to a comprehensive range of care.

In addition to the above activities, resources have been allocated by the Linkage Program for substance abuse services to increase the capacity of the drug treatment facility and create a priority system for individuals who otherwise would not access treatment. The referral from a Linkage Program case coordinator serves as an approval for the service as well as a mechanism for reimbursement. Functionally, the Linkage Program is a system of interorganizational communication, with all case coordinators marketing the services available through their organizations to clients serviced by colleagues and vice versa.

The job description and caseload of Linkage Program workers vary depending on each organization's specific population and needs. Although all workers coordinate the level of services provided to clients, some carry responsibility for greater comprehensiveness and intensity of services. For example, at the County House of Correction, the case manager—a registered nurse—has coordinating responsibilities for the education, counseling, and testing; medical care delivery; and emotional support of the inmates in the system.

The case management model of the Linkage Program differs from the standard definition of case management to the extent that each case manager is not responsible for the delivery of a package of services in a longitudinal fashion and is not limited to a discrete number of individuals. A team of case coordinators is available to serve a client based on the client's location, the client's perceived need, the intensity and the immediacy of the need, and the level of sophistication needed to respond. In the Linkage Program model, a substantially larger number of individuals can be managed by providers with the right level of expertise and at the community level, because the level of service is responding to the stage of need of the client.

The fundamental assumption influencing the design of this model is that the needs of clients identified by providers through outreach efforts differ from those who have self-identified their need and/or have already sought care. Clients encountered through outreach and assessed as in need of care often do not have the ability to negotiate their way into a health care system. However, clients already in a system have minimal or no barriers to care because they are familiar enough with the health care system to negotiate their wants. This assumption is based on the authors' collective experience that underserved persons, particularly IDUs, were not experienced in seeking care.

COORDINATION OF SERVICES AMONG AGENCIES

Coordination takes place at multiple levels. At the case coordinator level, a beeper system facilitates the coordinators' immediate access and response to the needs of clients identified by a colleague seeking assistance. Furthermore, all case coordinators meet with the program director on a weekly basis to address issues of access and discuss client cases. These weekly team meetings ensure that agencies in the community are working in conjunction with each other to provide an unduplicated array of services to clients. The program director meets regularly with agency supervisors, and she or the executive director of GBVHC addresses issues of a more systemic or corporate nature. The program's data manager and evaluation team meet regularly with the program director, executive director, and other relevant staff members to review findings and refine or redirect program activities based on process and preliminary outcome evaluation.

Client Confidentiality

In the Linkage Program, all efforts are made to protect client confidentiality. The evaluation team, program director, and executive director meet on a regular basis to review and evaluate confidentiality procedures to ensure that the program operates in complete compliance with the standards set by WAC. Furthermore, the program director and the case coordinators meet individually and as a team to ensure that the proper channels are followed. The Linkage Program case coordinators must obtain written informed consent from their clients to release and exchange any client information, including HIV status. Informed consent is critical in the Linkage Program because it is the mechanism that enables the caseworkers to effectively coordinate care. Clearly, the coordinators do not have the right to discuss client cases and case conference with providers and/or other Linkage Program colleagues without the clients' written consent. Clients have the right to choose which of the 13 Linkage Program agencies can receive their personal information.

The communitywide level of activity of this demonstration program exceeds the direct impact of the case coordinators. The following are some areas developed and enhanced by the Linkage Program:

1. Expansion of a model of care demonstrated at the men's County House of Correction to the statewide women's prison.
2. Acceleration of HIV-related medical services at the community level. A system of continual training and support available to physicians and other medical providers has resulted in the identification and enrollment in ongoing coordinated medical care of a substantial number (592) of HIV-infected individuals.
3. Expansion of sites where HIV counseling and testing are available and consequent early identification of clients in need of care.
4. Expansion of data-gathering sites with standardized instruments (ASI, WAC Encounter Form, Linkage Monthly Referral Summary). The information gathered by these tools is critical in the planning and delivery of services.
5. Through coordination and uniform reporting, the delivery model has maintained the benefits of a superimposed public health model, rich in epidemiological analysis and a tool for community planning.
6. Expansion of collaborating agencies' capacity to care for minorities. At times, this exposure has been a catalyst in broadening an agency's understanding of minority issues.
7. Inclusion of community health centers in the system. This expansion has created the availability of a family practice model of care to individuals who heretofore have been cared for in an insular manner and have been marginalized historically.

UNIQUENESS OF DELIVERING CASE MANAGEMENT SERVICES TO THE HISPANIC POPULATION

Delivery of case management to the Hispanic population requires understanding the unique requirements specific to the Hispanic community. Therefore, the case management system must be structured to address these requirements. Bilingualism of the case coordinators is only one critical aspect. A successful client-centered linkage between primary care and substance abuse is one in which the client is successfully case managed into as well as through the system. The agency's acceptance of the client is not sufficient if

the agency has not built adequate clinical capacity (i.e., professional and support staff) to serve that client or if its policies and procedures are not user friendly to a population unfamiliar with roles historically developed for a different population. Acceptance by the substance abuse treatment facility of Hispanic clients, specifically monolingual clients, is further complicated by illness or unique conditions (e.g., HIV-related or not-HIV-related conditions or pregnancy).

Cultural definitions of illness as well can further polarize the reluctant Hispanic client from the provider. For example, the substance abuse treatment provider's assumption of readiness for treatment may not be compatible with the client's. Whereas the client may want a specific service, the provider may "decide," under a set of assumptions not shared by the client, that the client does not *need* the service or is in need of a different service. The Linkage Program case management system promotes the opportunity for organizational accountability and an organic review of systems and assumptions.

SYSTEMS RESPONSE—DEVELOPING LINKAGES WITH OTHER COMMUNITY AGENCIES

Implementation of Linkage Program case management activities and engagement in the contemplated interorganizational referral relationships in each participating organization has developed at different rates. Below are some of the factors affecting the time for and effectiveness of integration:

- Level of complexity of individual organizations
- Prior history of collaboration with GBVHC or other collaborating organizations
- Presence or absence of HIV-related services
- Presence or absence of data management systems and consequent experience with meeting reporting requirements
- Experience in and commitment to serving minorities
- Presence or absence of bilingual/bicultural staff
- Difference in financial and human resources
- Peer pressure (participating in a collaborative arrangement presented new challenges for institutions that previously had been accountable only internally to their board members)

GAPS AND BARRIERS TO CARE

The implementation of the Linkage Program has led to an identification of critical organizational, interorganizational, structural, and cultural differences among the participating organizations. Perhaps next to inadequate reimbursement for services, inadequate bilingual capacity has been the most significant barrier to care. However, each organization, although acknowledging the linguistic barrier, still attempted to obtain a waiver from the bilingual requirement when hiring the case coordinator. All Linkage Program case coordinators are bilingual with the exception of a nurse case manager already located at the County House of Correction prior to implementation of the program.

Another barrier to care is that access to substance abuse services has been severely limited by cuts in reimbursement in Massachusetts. Although the Linkage Program has targeted a substantial portion of its resources to direct reimbursement, the level of demand created by access to counseling, testing, and case management exceeds the supply of treatment slots in community programs. Furthermore, changes in the existence or the extent of entitlement programs, such as Medicaid and publicly financed services for the uninsured, have created long waiting lists and continue to play a role in limiting the number of services available to minorities. GBVHC and others are trying to restructure the reimbursement system so that the entitlement is client based rather than organization based.

The Linkage Program identified a major gap in engaging individuals who are not receiving services in health centers, drug treatment programs, or correctional facilities. Historically, the drug abuse treatment system has not viewed outreach as a treatment modality. In the face of the HIV epidemic, outreach efforts have gained increasing legitimacy but are often HIV specific rather than treatment general. Although WAC and the Linkage Program each has developed an outreach component, this activity is not as well developed as more traditional approaches to engaging the drug-abusing population. HOAP, a component of the local community mental health center and a participant in both WAC and the Linkage Program, reaches a portion of the not-in-treatment population. However, an estimated three-quarters of the target population still is not being reached.

The Linkage Program has created a collaborative arrangement rather than a collection of agencies working independently but with shared objectives, such as WAC. Collaboration through a network has required reaching agreement on protocols of care and delivery systems. It also has required mutual accountability and responsibility toward each other and to the lead agency—

GBVHC. Significantly, the greatest outliers in this regard are some substance abuse treatment providers and the AIDS advocacy organization. Institutionalized rigidity or overriding concerns about confidentiality make it difficult for these organizations to reach a level of readiness for collaboration. Because of the nature of HIV and substance abuse, issues regarding confidentiality have forced the Linkage Program to address what sometimes appear to be the opposing needs of providing confidential services while ensuring accountability to the U.S. Department of Health and Human Services through appropriate reporting mechanisms.

Each individual agency's experience in collaborative relationships has played a role in its level of comfort and success in participating in the Linkage Program. For example, the Worcester Department of Public Health and the community health centers were at higher levels of readiness because they had collaborated previously in the hepatitis B epidemic program. The County House of Correction was eager to enter into this collaborative effort because it had historical referral relationships with the drug treatment system. The HIV epidemic among incarcerated IVDUs further increased the County House of Correction's readiness to collaborate with the medical care system.

Historically, the drug abuse treatment system has been insulated and has operated outside the mainstream of community health, mental health, and other human service organizations. This self-imposed isolation, particularly in an environment of intense competition for human service dollars, has left the substance abuse treatment system at a distinct disadvantage and lower level of readiness for community networking and collaborative relationships. Furthermore, the drug treatment program has been more reluctant to (1) collaborate on community-based initiatives, such as outreach, and (2) substantially explore interorganizational collaboratives, including changing the methodology of service delivery, to increase the capacity to care and be accountable for increases in units of services.

The fact that the Linkage Program provides financial incentives to the drug treatment provider in the form of reimbursed care has allowed the "community" to cross the threshold of the drug treatment system and "fund" a case coordinator to enable desirable cross-referral. The Linkage Program model has a better chance of being institutionalized over time if client outcomes derived from the program's goals are cost-effective, increase appropriate referrals, and/or give the drug treatment program a marketing edge. It is then that true ownership will be realized and operationalized.

The HIV epidemic among drug abusers has forced a self-contained, isolated system to develop community ties to provide appropriate medical services to its

clients. Reimbursement rates and mechanisms have made it infeasible to provide onsite treatment for HIV disease or other medical problems. Contemporary emphasis on managed care and case management models have both forced and supported the drug abuse treatment system to adopt a linkage-type model to survive. The need for approval from primary care physicians will serve to solidify this relationship.

DEMOGRAPHIC DESCRIPTION OF THE TARGET POPULATION

The target population is an estimated 4,000 to 5,000 injection drug users and their sexual contacts and HIV-infected children in any of 13 community and public health, criminal justice, HIV/AIDS support, or substance abuse treatment environments. Based on data from the WAC surveillance, the cumulative prevalence of HIV among recent (previous 3 months of free-living time) IVDUs is 21 percent (table 1).

The following information is based on data obtained from the WAC surveillance effort from February 1987 to December 1990:

- Sixty-six percent of the participants were male.
- Twenty-two percent were Hispanic, 8 percent non-Hispanic black, and 66 percent non-Hispanic white.
- Twenty-five percent were under age 25.
- Thirty-nine percent had a history of previous drug abuse treatment.

TABLE 1. *Seroprevalence of HIV by reported risk behavior*

Risk Behavior	Number Tested	Percent Positive
Gay men/no IVDU	197	7
Gay men/IVDU	87	22
IVDU in risk period	1,533	21
IVDU before risk period	522	11
Sexual contact of needle user	464	3
Multiple partners in risk period	353	1.5
None of above	1,371	1

SOURCE: Unpublished data from the Worcester AIDS Consortium data project research grant DA-05615-02. Published by permission of Dr. Jane McCusker, Director of AIDS Research Unit, School of Public Health, University of Massachusetts. Amherst data collected February 1987 to December 1990.

- Twenty-five percent had a history of previous incarceration.
- Sixty-seven percent of those interviewed were tested for HIV.
- Eight percent of the sample tested positive for HIV antibodies.
- Thirty-four percent had used needles in the most recent 3-month free-living period.

Percentages of those who reported needle use are as follows:

- Sixty-three percent reported sharing their works; among those who shared, 64 percent used bleach "some of the time."
- Nineteen percent reported multiple sexual partners; of those, 66 percent never used a condom.

There was a slight decrease in seroprevalence among recent needle users from 20 to 18 percent from the first to the second quarter of 1991. Over time, risky needle behavior has continued to decline: Forty-seven percent of needle users reporting currently state that they did not share works; of those reporting sharing, 74 percent used bleach at least "some of the time." Recently there have been more modest declines in risky sexual behaviors: Of those with multiple sexual partners, 59 percent had "never used a condom" compared with 62 percent in the previous quarter.

Between June 1990 and December 31, 1991, 2,909 individuals have been encountered through the Linkage Program. Males account for 48 percent of participants. Hispanics constitute 42 percent of Linkage Program clients, 9 percent are non-Hispanic black, and 44 percent are non-Hispanic white. The majority of clients are 20 to 29 years of age (42 percent). Thirty-eight percent are 30 to 44 years, and 13 percent are younger than 15 years. HIV seropositivity for Linkage Program clients is 22 percent, although 7 percent have never been tested and 10 percent are waiting for results of tests.

The Linkage Program provides case management services to 858 IVDUs, 30 percent of the clients receiving services. This figure represents 20 percent of the estimated number of injection drug users in the city of Worcester and one-half of those encountered in WAC. Based on surveillance data ascertained through WAC, the authors estimate that there are approximately 945 IVDUs infected with HIV in the city of Worcester. The Linkage Program serves 474 seropositive IVDUs, who represent one-half of the estimated number infected in the city (see table 2).

CLIENT TRACKING

Client tracking is accomplished through both active and passive methods. Clients are actively tracked by case coordinators through case conferences with other Linkage Program staff as well as outreach efforts to locate clients. Passive tracking of clients occurs through the use of the Linkage Program database. When a client enters the Linkage Program, she or he is assigned a unique identification code, called the "WAC ID," composed of letters from the clients' first and last names and birthdate. The WAC ID is constructed by the case coordinator according to the standardized methods developed by WAC. Therefore, the code serves as a device that links all clients across all participating agencies without using clients' names. In the event that a client is lost to followup and cannot be located through conventional methods of active tracking, the identification code enables the data manager to report to the case coordinator the last Linkage Program site that provided services to the client. This method of locating clients is especially valuable for case coordinators at agencies where clients may be unexpectedly discharged without a completed discharge plan (e.g., correctional facilities and substance abuse treatment facilities) and at agencies that deal with highly transient, noncompliant populations, such as the HOAP.

The unique identifier is the code used to monitor the HIV surveillance program implemented by WAC. Using this code enables the authors to evaluate the interaction of the Linkage Program and the HIV surveillance program to determine what proportion of people tested through the efforts of WAC are receiving integrated services through the Linkage Program. To link the two databases, written informed consent is obtained from the client at the time of enrollment in the Linkage Program.

EVALUATION ACTIVITIES

As mentioned previously, the Linkage Program is being evaluated locally in terms of process and outcome dimensions, with specific information being collected as part of a larger evaluation of all of these NIDA/HRSA-funded model programs. Because the purpose of the Linkage Program is to provide improved access to primary health care and substance abuse treatment, the evaluation component focuses on the extent to which linkages have been accomplished between these two systems. The evaluation systematically monitors provision of services by each case coordinator as well as the number of referrals made to substance abuse treatment, primary health care, and other AIDS-related services.

TABLE 2. *The demographic profile of all substance users and IVDUs encountered in the Linkage Program from July 1, 1990, to December 31, 1991*

Cumulative Total	Substance Users (n=1,046)		IVDUs (n=858)	
	Percent	N	Percent	N
Client category				
IVDU	66	687	80	687
Former IVDU	16	171	20	171
Substance user non-IVDU	16	169		
IVDU/risk	2	19		
Age				
15-19 years	2	23	1	12
20-29 years	41	433	39	334
30-44 years	50	525	54	465
45-64 years	4	40	4	35
Data missing	2	25	1	12
Sex				
Male	73	761	74	635
Female	25	265	25	216
Data missing	2	20	1	7
Race				
White	41	431	37	322
Hispanic	44	459	49	419
Black	10	107	10	86
Asian/Pacific Islander	0	1	0	0
Other	0.4	4	0.2	2
Data missing	4	44	4	29
HIV status				
Positive	46	482	55	474
Negative	39	404	35	300
Tested, results unknown	6	69	5	42
Never tested	7	71	4	35
Data missing	2	20	0.7	7
HIV positivity among those tested		51		58

Data are collected on each client served by the Linkage Program. At the end of each month, case coordinators submit to the data manager a completed Linkage Monthly Referral Summary for each client provided services by the coordinator during the month. This tool was developed by the evaluation team and has been continually refined and improved to meet Federal reporting requirements and to capture additional data of specific interest to the Linkage Program administrators. The instrument serves as a referral summary and documents the case management services provided directly by each case coordinator. It also is a tracking device to document the number of contacts the client had with the program as well as the number of referrals made to substance abuse treatment, health care, and AIDS-related services.

When a referral is made for a service, the case coordinator follows up with both the agency and the client to determine whether the referral was successfully completed and services were provided. The following information is based on data compiled through December 31, 1991.

Referrals to Primary Health Care Services

- Three hundred and sixty referrals were made to primary health care services, and 73 percent were completed.
- Sixty-four percent of referrals to primary care were for males.
- Seventy-seven percent of referrals among males were completed, compared with 65 percent of referrals for females.
- Sixty-three percent of referrals to primary care were made for Hispanics, of which 73 percent were completed.
- Twenty-three percent of primary care referrals were made for whites, of which 74 percent were completed.
- Fourteen percent of referrals were made for blacks, of which 70 percent were completed.
- Among substance abusers, 301 referrals were made to primary health care and onsite medical services, and 77 percent were completed.

Referrals to Substance Abuse Treatment Services

- A total of 411 referrals were made to six substance abuse treatment modalities, and 55 percent were completed.

- The majority (29 percent) of substance abuse referrals were made to inpatient detoxification services, and 55 percent were completed successfully.
- Twenty-five percent of referrals to substance abuse treatment were made to methadone services, and 63 percent of these referrals were completed.
- Sixty-two percent of substance abuse referrals were made for Hispanics, of which 56 percent were completed.
- Twenty-seven percent of referrals were made for whites, of which 55 percent were completed.
- Ten percent of referrals were made for black substance abusers, of which 50 percent were completed.

The percentages of completed referrals to substance abuse treatment were similar among males and females. However, the number of substance abuse referrals made for males is two and a half times greater than for females. This difference can be explained partially by the lower prevalence (25 percent) of substance abuse among women encountered in the Linkage Program.

Nevertheless, the authors are concerned that the following conditions might preclude a case manager from making referrals: (1) The case coordinator has a perceived barrier based on a substance abuse agency's lack of capacity to provide treatment services to women, and (2) a systematic assessment of women for substance abuse has not been institutionalized in all agencies participating in the Linkage Program.

It is necessary to further assess and evaluate both perceived and real barriers that may prevent a case coordinator from initiating a referral. To address these issues, a mechanism was recently instituted in the data collection system to enable tracking individuals who refuse referrals to services, have been placed on waiting lists for services, or are actively engaged in services.

Some measures of success to date are as follows:

- Thirty percent (n=858) of Linkage Program clients are IVDUs.
- This figure represents 20 percent of the estimated number of injection drug users in the city of Worcester and one-half of those in the WAC surveillance.
- Based on WAC data, there are an estimated 954 IVDUs infected with HIV.

- The Linkage Program provides services to 474 seropositive IVDUs, who are one-half of the estimated number infected in the city.

COST-EFFECTIVENESS

Although the cost-effectiveness of this intervention has not been measured directly, the Linkage Program model was structured to integrate primary health care and substance abuse services and provide coordinated care, thus preventing the duplication of services by community organizations. The case manager is conceived as a coordinator who acts as an intermediary to facilitate access to providers while ensuring nonduplication of services. Furthermore, institutionalizing risk assessments in participating agencies and providing onsite HIV counseling and testing permit early identification of clients at risk for HIV or infected with HIV. Once identified, clients are linked with a case manager who further assesses client needs and connects clients with a primary care provider. Prior to the implementation of the Linkage Program, many of these clients would receive medical services only at the tertiary level as their health began to fail.

IMPLICATIONS FOR FUTURE RESEARCH ON CASE MANAGEMENT

Although not a research project per se, in many ways the Linkage Program has set the stage for possible future research by virtue of the data-gathering instruments utilized, the ability to link with the WAC database, and the use of informed consent to permit fuller exploration of processes, barriers, and outcomes, both on an individual and a systemic level. The Linkage/WAC Programs created a structure that enabled the authors to compare the effectiveness of the Linkage Program intervention with a cohort in the WAC surveillance that was not exposed to the intervention. The natural extension to the current demonstration is to apply rigorous research methodologies to evaluate the effectiveness of the existing linkage models. Specifically, research might be conducted to evaluate the effectiveness of linkage models in the following areas:

- Reduce alcohol and other drug consumption and prevent relapses among clients
- Enhance clients' physical and mental health status
- Link clients effectively with other needed services

- Enhance clients' compliance with prescribed treatment and case management plans
- Reduce rates of HIV seroconversion
- Prevent or reduce clients' HIV risk-related behaviors
- Enhance residential, economic, and employment status

Clearly, this type of information would help guide the development of effective linkage programs in the future. Detailed and specific treatment protocols, training manuals, and suggested evaluation instruments should be developed to be used by service providers seeking to implement identical or similar program models.

ACKNOWLEDGMENTS

This work was supported in part by the Great Brook Valley Health Center, a federally funded (Sec. 330) community health center (93.224), and by grants from the National Institute on Drug Abuse (DA-0516) and the Health Resources and Services Administration (CHS000117).

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Assertive Community Treatment With a Parolee Population: An Extension of Case Management

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INTRODUCTION

Prison inmates with histories of injection drug use or trading sex for drugs face diverse potential problems on release from the institution. In addition to the adversities associated with community reintegration and recidivism, there is the likelihood of relapse to drug abuse. Also, for those whose drug involvement includes the sharing of injection equipment and/or the high-risk sexual behaviors associated with the bartering of sex for drugs or money to purchase drugs, there is also the real potential for human immunodeficiency virus (HIV) infection. Considering the greater numbers of drug-involved offenders being incarcerated each year and the economic burden of providing health care to the expanding pool of HIV-positive inmates, the need to intervene in the cycle of relapse and recidivism with this population is obvious. Case management services combined with an intensive outpatient treatment regimen for prison releases is an attractive option. The University of Delaware's Assertive Community Treatment (ACT) program is a National Institute on Drug Abuse (NIDA)-funded treatment research demonstration initiative funded during the closing months of 1989 to address these phenomena. ACT is an extension of the case management framework in its approach and in the clients served.

CASE MANAGEMENT AND ASSERTIVE COMMUNITY TREATMENT

Case management has been described in a variety of ways. In the mental health field where case management originated, a widely accepted definition comes from the Joint Commission on Accreditation of Hospitals (1976):

Case management services are activities aimed at linking the service system to a consumer and coordinating the various system components in order to achieve a successful outcome.

The objective of case management is continuity of services. . . . Case management is essentially a problem-solving function designed to ensure continuity of services and to overcome systems rigidity, fragmented service, misutilization of certain facilities and inaccessibility.

Within this context, case management is a problemsolving activity designed to address inadequacies in the human service delivery network that become barriers to a client's need for an integrated system of benefits, support, and care. In more conceptual terms, case management is a mechanism through which the client's goals, rather than the system's goals, can be realized (Anthony et al. 1988). A second and more recent perspective regards case management as an integrative, individualized, proactive process that is more community based. Under this system, the manager accomplishes a variety of tasks on behalf of the client, from advocating benefits to monitoring outpatient treatment visits (Harris and Bergman 1987).

A third perspective, advocated in this chapter, follows an even more intensive and proactive response to client needs. Assertive community treatment, often referred to in the literature as "assertive case management" (Bond et al. 1988), is a developmental step in the traditional approach to case management in that counselors make contacts with clients in their homes and on their turf, rather than in treatment centers; attention is paid to the practical problems of daily living; caseload sizes are manageable, permitting workers to have frequent client contact; and there is a team approach in which caseloads are shared.

THE FOUNDATIONS OF ASSERTIVE COMMUNITY TREATMENT

Assertive community treatment is based on a continuity of care model for the community treatment of the chronically mentally ill that originated in Madison, WI, during the early 1970s (Test et al. 1985). The focus of the model is helping the client reenter the community by providing "in vivo treatment" in small client-to-staff ratios, and it is characterized by material, interpersonal, and moral support in the areas of education, vocational training, use of leisure time, and self-care in dealing with the stresses and pressures of interpersonal living. The most important components are (Anthony and Margules 1974; Cutler et al. 1984; Thompson et al. 1990):

- Counselors actively keeping track of their clients with numerous face-to-face contacts, rather than waiting for problems to arise
- Staff being available to clients at all times

- Counselors having access to instrumental support for clients (e.g., job training, rent and food money, tools for work, transportation, child care)
- The more traditional forms of treatment, rehabilitation, and support group services

Although evaluations of the assertive community treatment approach with the mentally ill are limited, the results are generally positive. Studies demonstrate that, when compared with matched control patients who are discharged from inpatient psychiatric and other mental health settings without some form of case management program, those in the assertive treatment models tend to (1) have better occupational functioning, (2) live in residential situations requiring some level of independence, (3) be less socially isolated, and (4) be rehospitalized less often and remain in the community longer before rehospitalization (Stein and Test 1980; Test 1981; Rapp and Chamberlain 1985; Bond et al. 1988; Goering et al. 1988; Olsson 1990).

APPLICATIONS WITH A DRUG-INVOLVED PAROLEE POPULATION

There are similarities between the chronically mentally ill and drug users that suggest that assertive community treatment would be appropriate in the drug abuse field. Both populations require treatment and a comprehensive network of continuing support to interrupt the relapse cycle and allow the client to remain stabilized in the community. Moreover, such factors as prior criminal involvement, prison experience, injection drug use, and HIV risk factors further suggest the need for assertive case management intervention.

Research has suggested that treatment outcome is more likely to be successful when drug use is treated as a complex of symptom patterns involving various dimensions of the individual's life (McLellan et al. 1981; Lipton 1989). This perspective lends itself to the biopsychosocial assertive community treatment model of rehabilitation used with the chronically mentally ill, an approach that stresses multimodal and holistic methods of assessment and treatment. Although relapse prevention can be presented as a psychoeducational, skill development approach (Daley 1986), other problem dimensions also can be treated effectively when properly integrated in a comprehensive rehabilitation program that provides reinforcement and support in the community.

By contrast, there are some major differences in the assertive community treatment model in the mental health field when applied to drug-involved parolees. First, there is the expectation that the drug abuse and related problems of the parolee population can improve, and eventually, the need

for treatment may cease. Because of this expectation, the ACT program for parolees has time limits and success goals, rather than the continuous availability of help envisioned for the mentally ill. Second, there is the matter of overcoming resistance to the traditionally passive role of clinicians waiting for clients to come to them. For example, Bond and colleagues (1991) noted:

In the early 1970s the tenets of ACT must have seemed quite radical, even preposterous, to the traditionally trained clinician. Imagine a treatment approach in which the professional staff were not only permitted but actually required to leave the comfortable surroundings of their hospitals and clinics, doing most of their work in the clients' own homes and neighborhoods! Imagine an approach in which the "treatment" often entailed not the exploration of transference phenomena but rather the exploration of YMCA sleeping rooms, public welfare offices, and coin-operated laundries!

Since the advent of assertive community treatment, there has been resistance to being more proactive with clients by delivering treatment and support to clients in the community. This was a difficult barrier to overcome in the mental health field. It is even more difficult when dealing with criminal justice clients; clinicians and case managers may have the perception of serious physical risk and the underlying feeling that the clients are more responsible for the situation they are in.

SPECIFICS OF THE DELAWARE ACT INTERVENTION

On classification to parole status, each ACT client receives an indepth, comprehensive, biopsychosocial evaluation, after which a primary case manager is assigned and an individualized Master Treatment or Service Plan is prepared. It is developed with the client and addresses his or her involvement with all aspects of treatment as well as necessary adjunctive services available in the community. The treatment or service plan contains specific, measurable goals and objectives that include expected achievement timeframes.

An intensive outpatient drug treatment program is provided, which includes individual, group, and family therapy; drug education; relapse prevention skill training; acquired immunodeficiency syndrome (AIDS) education; and onsite Alcoholics Anonymous and Narcotics Anonymous meetings. Relapse prevention skill training and support is based on a synthesis of available psychoeducational models. Skills development emphasizes the efficacy of

lifestyle changes that produce increased self-esteem, including, but not limited to, developing healthy, supportive friendships, coping with cravings and situations that are risks to relapse, effective use of leisure time, and stress management.

In general outline, the course of drug treatment occurs in five phases:

1. **Intensive Treatment Phase (6 weeks).** During the first 2 weeks, clients are involved in group counseling (7.5 hours/week), drug and AIDS education and discussion groups (4 hours/week), and individual counseling (minimum of one 50-minute session/week). Family assessment therapy is scheduled based on the needs of each family. The next 4 weeks of intensive treatment comprise three group sessions each week, 5 days of drug and AIDS education and discussion, and special issue groups. Individual counseling is provided a minimum of one session per week. Family therapy is scheduled reflecting the needs of the family.
2. **Moderately Intensive Treatment Phase (6 weeks).** For the first 3 weeks of this phase, clients participate in group counseling twice a week. Education and discussion sessions become more frequent (three times a week) and begin to focus on relapse prevention while continuing with AIDS-related issues. Individual sessions continue as previously scheduled and vary according to individual needs. Family sessions occur as needed, at the discretion of the therapist. For the next 3 weeks, treatment takes on a more supportive posture. Group counseling is scheduled once a week; relapse prevention (psychoeducational model) is provided twice a week. Individual counseling and family therapy are on an as-needed basis.
3. **Relapse Prevention Phase (6 weeks).** During this period, group sessions meet once per week for support of relapse prevention. In addition, relapse prevention education is provided twice a week, and individual counseling and family therapy are scheduled as needed.
4. **Case Management Phase (12 weeks).** After clients have successfully completed their active involvement in the ACT program, they transfer into a case management phase designed to support their transition into less intensive treatment involvement. This transition may include placement in a vocational training program or direct job placement. Case management can include continued active participation in the supportive elements of the treatment program, if the client is motivated and the treatment team agrees. Case management contacts are initiated to determine whether clients have remained alcohol- and drug-free, have complied with vocational training or

job placement plans, are in stable family and employment situations, and/or are in need of further service or referral.

5. Followup Phase (1 year). Followup contacts or assessments are initiated by case managers for each client at 1 month after discharge, as well as at 3-, 6-, 9-, and 12-months postdischarge intervals. These contacts are face to face if possible, or by letter or telephone, for determining whether the client has remained alcohol- and drug-free, compliance with the aftercare plan, education and training and employment status, status of family and social relationships, legal status, psychological and psychiatric status, medical status, and appropriateness of any further service or referrals.

CASE MANAGEMENT AND ADVOCACY

The implementation of the relatively lengthy case management phase is crucial to the effectiveness of assertive community treatment and needs to be described in more detail. The case management component comprises a multidisciplinary staff, which takes a team approach to the overall case management of the clients.¹ In addition, ACT staff members provide client advocacy with other programs, treatment, and service providers in Delaware's human service network as well as with the criminal justice system. These ancillary service agencies provide additional resources to clients and include mental health treatment, medical and dental services, financial support, social services, child care, and transportation.

Case managers provide direct counseling services and work with clients to develop the skills necessary to function successfully in the community. Case managers also function as group facilitators to provide direct skill training and support in the area of their specialty, such as AIDS education, relapse prevention, remedial education, and employability skills training. Scheduled activities rotate to provide staff with available time to work closely with the clients on their caseloads. Regularly scheduled team meetings are held during which the staff members adjust client and program goals and objectives in a realistic manner. This process keeps the program responsive to the immediate needs of the clients, and case managers benefit from the input and support of other staff members involved with their clients. The assigned case manager reviews the team staffing outcome with each client (and his or her family, if appropriate). Client services are monitored at all stages to ensure the stability and quality of the client/provider relationship. The progress of clients in the planned services is evaluated on an ongoing basis to adjust services in response to the client's ability to benefit from them. In addition, staff members teach adaptive behavior through instruction, modeling, encouragement, and realistic limit setting. There are family

consultation and crisis intervention services whenever necessary that are geared toward maintaining the client in the community and preventing relapse.

Finally, the ACT intervention includes, when necessary, an "employability" program of education and/or reeducation, job readiness, and job-seeking skills training, all designed to increase the client's marketable employment skills. This is accomplished through remedial education in the areas of reading, mathematics, and language arts. Also, when appropriate, there is general equivalency diploma (GED) preparation utilizing video instruction materials and accompanying workbooks. Teacher assistance is available to facilitate the learning process. The employability skills training component uses the PACE Learning Systems Employability Skills Training program (McKee 1987). This program focuses on employability, job-retention skills, and valuable life or "survival" skills (e.g., how to live within a budget, buy a reliable used car). Support and assistance in job seeking or placement are provided, with consideration given to both immediate, short-term employment and long-term vocational needs.

STUDY POPULATION AND RESEARCH DESIGN

The target population for the assertive community treatment initiative is parolees with histories of injection drug use and other drug users whose sexual behaviors have placed them at high risk for HIV/AIDS. As potential inmates or subjects approach their parole eligibility dates, they are identified by the research staff, and their participation in the project is elicited. Those who agree to be study subjects are randomized into treatment and control groups. The treatment subjects are placed into the ACT program as described. The control subjects receive traditional parole supervision, in which the only treatment services are those deemed needed and appropriate at the discretion of the client's parole officer. During the course of the study, 200 study subjects will be randomized into each of the treatment and control groups. A third comparison group includes parolees who have graduated from the KEY, a prison-based therapeutic community (TC) located in Delaware's Multi-Purpose Criminal Justice Facility—a maximum security institution in Wilmington. The inclusion of this third group provides the opportunity to assess the relative effectiveness of three levels of treatment intervention with essentially the same population—ranging from high intensity (prison-based TC treatment) to moderate intensity (ACT) to low intensity (parole as usual).

There are two primary research strategies employed to assess the efficacy of the ACT intervention. First, data are being collected using a series of research questionnaires administered at baseline, 6-month followup, and 18-month followup.² All drug treatment research subjects are interviewed. The

baseline questionnaire solicits information about drug use and sexual and criminal history, childhood experiences, education, employment, and basic demographics. The 6-month followup coincides with completion of treatment for those entering the ACT intervention. This questionnaire focuses on activities and experiences during the previous 6 months, with a particular focus on drug treatment involvement. It also includes questions pertaining to drug use and criminal activities during the past 6 months. The final questionnaire focuses on activities and experiences during the previous year. All three questionnaires will provide impact and outcome data. The data for the control group and the treatment group will be compared to see what factors influence relapse and recidivism, including the effect of treatment. HIV and urine testing are also done at the three contact points.

Second, a process evaluation is being conducted. This research component focuses on the nature and quality of program components and their effects on individual case outcomes. The process evaluation targets the day-to-day operations of the treatment and helps to assess what occurs in that "black box" of intervention. Data for this process analysis include observations in the treatment setting as well as structured interviews with staff and clients. In addition, client records are used to assess client participation in the program and case management activities and techniques.

Selected baseline characteristics of the first 208 subjects recruited into the project appear in table 1. Overall, with a higher proportion of women than expected, the sample characteristics generally reflect those of the correctional population as a whole. Although women account for only 5 percent of the Delaware prison population, their overrepresentation in the control and ACT groups is a reflection of their greater tendency to be paroled. The absence of women in the KEY results from the lack of a TC for women in the Delaware prison system.

BARRIERS TO WORKING WITH A PAROLEE POPULATION

It has been argued that drug-involved offenders have limited experience with health care services, often lack skills related to setting and keeping appointments, and typically distrust substance abuse treatment providers because the providers are perceived as representatives of "the system." As Peters and May (1992) state:

The belief that community treatment programs are affiliated with the criminal justice system can act as an impediment to the building of the appropriate patient/client relationship. Involvement with substance abuse or mental health treatment

TABLE 1. *Selected characteristics of the first 208 control, ACT, and KEY subjects in the Delaware parole project*

Characteristics	Control (n=79)	ACT (n=78)	KEY (n=51)
Gender			
Male	67%	64%	100%
Female	33%	36%	
Race/ethnicity			
African-American	58%	70%	82%
White	38%	26%	18%
Hispanic	4%	1%	—
Other	—	3%	—
Age (mean)	29.3	29.8	31.3
Education			
Eighth grade or less	9%	12%	4%
9th through 11th grade	42%	37%	12%
High school or GED	39%	45%	72%
More than high school	10%	6%	12%
Marital status			
Married	11%	10%	4%
Widowed, divorced, separated	27%	22%	28%
Never married	62%	68%	68%
Number (mean) of criminal charges	7.1	7.8	9.6
Violent crime on record			
Yes	56%	60%	74%
No	44%	40%	26%
Number of times in prison			
1	24%	23%	18%
2	24%	26%	24%
3	24%	22%	20%
4 or more	28%	29%	38%
Number (mean) of different drugs used	5.3	5.1	5.4
Used marijuana	98%	99%	98%
Used cocaine	80%	81%	77%

TABLE 1. (continued)

Characteristics	Control (n=79)	ACT (n=78)	KEY (n=51)
Used crack	70%	67%	61%
Used heroin	24%	26%	43%
Used speed	63%	52%	51%
Used intravenous drugs	67%	73%	65%
Used alcohol or other drugs inside prison	37%	28%	57%
Consider self addict			
Yes	77%	74%	92%
No	23%	26%	8%
Health status			
Excellent	39%	36%	51%
Good	38%	44%	39%
Fair or poor	23%	20%	10%
How well informed on HIV/AIDS			
Very well	62%	58%	94%
Somewhat	23%	35%	6%
Little or not	15%	8%	0%
How likely to develop AIDS			
No chance	27%	31%	24%
Some chance	57%	50%	55%
High chance	16%	19%	21%
HIV status			
Negative	63%	67%	67%
Positive	13%	14%	8%
Not tested	24%	19%	25%
HIV status (for those tested)			
Negative	83%	82%	90%
Positive	17%	18%	10%

NOTE: Due to rounding, percentages may not add exactly to 100.

is seen by the members of some groups as a sign of weakness, reflecting an inability to cope with stress. Many offenders report feeling overwhelmed by the transition from a highly structured correctional environment that does not permit self-sufficiency, to the very same community in which they failed to adapt in the first place. Return to home environments with the possibility of lingering anger and fear from past relationship problems related to drug use presents a major intervention point for treatment. However, significant others are often reluctant to become involved in the necessary treatment to resolve the problems. Thus, there is a multitude of problems related to "returning home" that become impediments to establishing the necessary support for recovery. The expectations of the criminal justice system also produce stresses that impinge on a parolee's ability to cope with a drug-free lifestyle.

In addition to these expected barriers to working with the target population, there are more subtle issues. Case management functions that require tracking and making contacts with clients as they pass through the correctional system have been challenging. ACT staff members have been faced with the fact that criminal justice personnel are not always advised as to clients' release dates. In addition, access to clients prior to their release can be restricted by sudden lockdowns, work-release agreements that were not communicated to the case manager, or even the basic inability of the correctional system to physically locate many of its inmates. Also, after clients have been released to the community, their levels of compliance and motivation often deteriorate.

Finally, perhaps the major barrier is attempting to structure a case management treatment initiative in conjunction with a correctional system characterized by fragmented leadership, limited services, and problematic communication. For example, the Delaware Department of Corrections has no mechanism for transferring inmates from the prison to release status that ensures that the parolee is involved with the appropriate authorities in the community—including parole officers and treatment providers. Occasionally, parolees are released from prison and community authorities are notified. Frequently, potential respondents are identified through the Parole Board, screened and interviewed for the research project, but never released from prison. For example, when the Parole Board makes a release decision, it is often unaware of an inmate's "open charges" (if any). On the day of release, the parolee is returned to court and additional charges can be pressed; thus, the parolee is returned to prison without having been released to the community.

PROBLEMS IN CONDUCTING RESEARCH ON CASE MANAGEMENT

The objective of research on case management is to determine how and why therapeutic program components are linked to individual case outcomes. This process includes examining the nature of the case management model utilized, the manner of implementing the model, the social context within which it is based, and the quality of the case managers delivering the service. Once the theoretical basis for specific treatment strategies is known and understood, case management research must determine precisely how those strategies are applied, how they are received by clients, what their impact is on behavior modification or change, and what changes in program strategies grow out of day-to-day experience. Case management research is capable of revealing what happens to a client from the time of entry into a program until the client's discharge or failure. It also helps to determine whether and how programs are responsive to changing client needs and shifting social and political dynamics in the community.

Three different ways of evaluating the outcome of the intervention—dichotomies, degree indicators, and time at risk—will provide a more rigorous evaluation of the effectiveness of the treatment alternatives than simple success or failure comparisons alone. For example, a “yes” or “no” measure for drug use in the past year may show no differences between treatment and controls at the 12-month followup, but those emerging from the ACT program may use fewer drugs, use less frequently, or may have stayed clean for a longer period. Success may be judged not only on the numbers who remain drug-free but also in terms of how long they remain so and whether they reduce use.

Although the mechanics of outcome evaluation may be complex and statistically intensive, the basic premise is rather straightforward, based on operational definitions of success and failure. Assessing case management may be methodologically simpler, but it is far more complex in its premises. Relevant variables are more difficult to determine and hard to measure. How important is the atmosphere that exists in a program? Are values pertaining to treatment principles and goals shared by the staff, by the staff and clients, by the staff and supervisors? Because the overall ethos of a program will influence the morale and spirits of all participants, whether staff or clients, it is a justifiable area of inquiry for assessing case management.

To a large extent, research on case management is research on case managers, since it is often difficult to separate the two. Although there are different philosophies and techniques of case management, most agencies appear to expect a fair amount of conformity among managers. Therefore,

the role of the case manager may be crucial in understanding the varied impact of treatment programs on clients. How do staff members facilitate the therapeutic process? Does staff effectiveness vary by training, philosophy, personality, caseload, or charisma? Although impact or outcome analysis will answer some of these questions, it is also necessary to probe their qualitative aspects as well.

Once variables are identified, measurements become extremely important in case management research. It is essential to use both quantitative and qualitative data in attempting to determine program effectiveness. Ideally, each type of data will be used to supplement and reinforce the other, adding greater certainty to conclusions drawn about issues that are intrinsically difficult to measure.

Assessing the role and quality of case management also demands that relevant data be collected from different sources. Case managers, supervisors, and clients are obvious sources of information, as are other professionals with knowledge of a therapeutic program as well as families and employers of clients. Comprehending data from such diverse sources may be tricky and necessitate keen insight and interpretive skills. Nevertheless, the case management researcher can learn a great deal about a program and its effects by talking to an array of persons involved, directly and indirectly, in a program.

In addition to interview data and information from records of various sorts, observations may also be used to understand and evaluate the case management taking place in a program. A trained social scientist can learn a great deal from observing a case manager at work, in group and individual counseling sessions, at staff meetings, and in homes. However, case managers are often reluctant to participate in this type of observation, citing the potential breach of confidentiality and the discomfort such observations may cause troubled clients.

Case managers are service providers whose primary concern is the welfare of their clients. Often, they have an incomplete understanding and appreciation of research and its demands for random assignment, uniformity, and objectivity. Hence, the researcher is often seen as an intruder whose requirements are obtrusive, invasive, and even detrimental to clients' welfare. In addition, it is sometimes believed that those not trained in the delivery of services cannot comprehend its many nuances and, thus, cannot render a fair evaluation. A researcher overcomes issues of this sort only by patient discussion, the expression of empathy, and the manifestation of a great deal of humility.

POSTSCRIPT

Future research is certainly a worthy topic. However, there are some basic issues associated with conducting treatment research in correctional and other criminal justice settings that need to be resolved.

1. A major difficulty involves the use of random assignment in drug treatment research, particularly in environments where releasing high-risk people from prison is unpopular. Moreover, there are a variety of ethical and practical considerations. For example, some inmates wishing to be in the ACT program were assigned to the control group; some inmates assigned to the ACT intervention were not those that clinical personnel would normally classify as ready for treatment; some of those assigned to the control group sought treatment on their own or were referred to separate programs by correctional officials and parole officers.

Taking this one step further, it can be argued that random assignment can compromise the treatment evaluation initiative. In the real world of drug abuse treatment, program staff members choose the clients they feel are ready for treatment and are appropriate for their particular modality. Random assignment does not allow for client selection. As a result, inappropriate clients are assigned to treatment groups, often undermining the effects of treatment and contaminating the treatment environment. Consequently, conclusions made about treatment conducted within the context of research may not necessarily apply to treatment conducted apart from any research design.

One could also argue that the problems associated with random assignment could be eliminated by drawing from a pool of subjects who are eligible for treatment, ready for treatment, and willing to enter treatment. However, that situation may pose practical dilemmas in terms of the size of the sample pool and the resources necessary to conduct preassignment screening and assessment.

Moreover, what does a research team do with those recruits who are eligible, ready, and willing to enter treatment but who end up in a no-treatment control group?

2. Another practical dilemma involves human subjects' research. Drug treatment for criminal justice clients seems to work best when it is coerced. This has been documented at length in the literature (Leukefeld and Tims 1988). The criminal justice system can provide both the stick

and the carrot. Compulsory treatment requires clients to remain in treatment for a given length of stay, and length of stay seems to be the major factor associated with success in treatment. This, too, has been documented at length in the literature (Hubbard et al. 1989; Platt et al. 1990). When the treatment of criminal justice clients is voluntary, attrition rates tend to be higher. Yet protocols for research on prisoners require voluntary participation and also require that sentences and correctional status not be affected by participation in the research project. Thus, a treatment demonstration project may not offer the possibility of early parole or a reduction in sentence length as part of participation, which in effect eliminates much of the carrot and the stick essential to treatment success.

3. On the positive side, it would appear that combining ACT with parole supervision could have some significant effects. Perhaps the most appropriate way to accomplish this combination would be a linkage to existing treatment resources in the community through the Treatment Alternatives to Street Crime (TASC) initiative. TASC has been described at length elsewhere (Inciardi and McBride 1991). In conjunction with parole, work release, supervised custody, or any other form of conditional release, TASC seems logical and cost-effective.

NOTES

1. Currently, the case management staff includes a senior clinician (M.A. in counseling and 5 years experience in outpatient counseling), a senior case manager (M.S.W., 3 years experience in child protective service in a drug unit, and a certified HIV trainer), a second senior case manager (M.A. in human services and 7 years experience in residential substance abuse treatment), a case manager (B.A. in public policy and 3 years experience with inpatient mental health and substance abuse treatment with adolescents), and an intake coordinator (A.A. in criminal justice and 3 years experience as a detoxification counselor and assessment specialist).
2. Because the subjects at baseline are about to be released from prison, the questionnaire has been developed to reflect prison life, rather than street life, in the immediate past. Because of this orientation, instruments like the Addiction Severity Index and NIDA's Risk Behavior Assessment would be inappropriate.

REFERENCES

- Anthony, W., and Margules, A. Toward improving the efficacy of psychiatric rehabilitation: A skills training approach. *Rehabil Psychol* 21:101-105, 1974.
- Anthony, W.A.; Cohen, M.; Farkas, M.; and Cohen, B.F. Case management—more than a response to a dysfunctional system. *Community Ment Health J* 24:219-228, 1988.
- Bond, G.R.; Miller, L.D.; Krumwied, R.D.; and Ward, R.S. Assertive case management in three CMCHs: A controlled study. *Hosp Community Psychiatry* 39:411-418, 1988.
- Bond, G.R.; Witheridge, T.F.; Dincin, J.; and Wasmer, D. Assertive community treatment: Correcting some misconceptions. *Am J Community Psychiatry* 19:41-51, 1991.
- Cutler, D.L.; Terwillinger, W.; Faulkner, L.; Field, G.; and Bray, D. Disseminating the principles of a community support program. *Hosp Community Psychiatry* 35:51-55, 1984.
- Daley, D. *Relapse Prevention Workbook*. New York: Learning Publications, 1986.
- Goering, P.N.; Farkas, M.; Wasylenk, D.A.; Lancee, W.J.; and Ballantyne, P. Improved functioning for case management clients. *Psychosoc Rehabil J* 12:3-17, 1988.
- Harris, M., and Bergman, H.C. Case management with the chronically mentally ill. *Am J Orthopsychiatry* 57:296-302, 1987.
- Hubbard, R.L.; Marsden, M.E.; Rachal, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment: A National Survey of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989.
- Inciardi, J.A., and McBride, D.C. *Treatment Alternatives to Street Crime: History, Experiences, and Issues*. DHHS Pub. No. (ADM)91-1749. Rockville, MD: National Institute on Drug Abuse, 1991.
- Joint Commission on Accreditation of Hospitals. *Accreditation of Community Mental Health Service Programs*. Chicago: Joint Commission on Accreditation of Hospitals, 1976.
- Leukefeld, C.G., and Tims, F.M. *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. National Institute on Drug Abuse Research Monograph 86. DHHS Pub. No. (ADM)89-1578. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988.
- Lipton, D.S. "The Theory of Rehabilitation as Applied to Addict Offenders." Paper presented at the Narcotic and Drug Research, Inc. What Works Conference, New York, October 1989.
- McKee, J.M. *A Training Program for Employability Skills*. Tuscaloosa, AL: PACE Learning Systems, Inc., 1987.
- McLellan, A.T.; Luborsky, L.; Woody, G.E.; O'Brien, C.P.; and Kron, R. Are the "addict-related" problems of substance abusers really related? *J Nerv Ment Dis* 169:232-239, 1981.

- Olfson, M. Assertive community treatment: An evaluation of the experimental evidence. *Hosp Community Psychiatry* 41:634-641, 1990.
- Peters, R.H., and May, R. II. Drug treatment services in jails. In: Leukefeld, C.G., and Tims, F.M., eds. *Drug Abuse Treatment in Prisons and Jails*. National Institute on Drug Abuse Research Monograph 118. DHHS Pub. No. (ADM)92-1884. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1992. pp. 38-50.
- Platt, J.J.; Kaplan, C.D.; and McKim, P.J., eds. *The Effectiveness of Drug Abuse Treatment: Dutch and American Perspectives*. Malabar, FL: Robert E. Krieger, 1990.
- Rapp, C.A., and Chamberlain, R. Case management services for the chronically mentally ill. *Soc Work* 30:417-422, 1985.
- Stein, L.I., and Test, M.A. Alternative to mental hospital treatment. *Arch Gen Psychiatry* 37:392-412, 1980.
- Test, M.A. Effective community treatment of the chronically mentally ill: What is necessary? *J Soc Iss* 37:71-86, 1981.
- Test, M.A.; Knoedler, W.H.; and Allness, D.J. The long-term treatment of young schizophrenics in a community support program. In: Stein, L.I., and Test, M.A., eds. *Training in Community Living—Ten Years Later*. San Francisco: Jossey-Bass, 1985. pp. 17-27.
- Thompson, K.S.; Griffith, E.E.; and Leaf, P.J. A historical review of the Madison model of community care. *Hosp Community Psychiatry* 41:625-634, 1990.

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TASC: Case Management Models Linking Criminal Justice and Treatment

Foster Cook

INTRODUCTION

Treatment Alternatives to Street Crime (TASC) programs in the United States developed in response to a growing understanding of the relationship between drugs and crime and a need to do something about it. Inciardi and McBride (1991) noted that TASC began in response to three fundamental assumptions: (1) Significant portions of the populations of major metropolitan areas had serious problems of drug abuse and addiction; (2) drug addiction is often coupled with a cycle of crime, arrest, incarceration, release, and continued addiction; and (3) the frequency of contact between the addict and the criminal justice system provides viable opportunities to intervene.

The TASC concept evolved to provide a structured linkage between the justice system and the treatment system. The concept met the justice system's need for access to treatment coupled with accountability and the treatment system's need for predictable and supportive interaction with the justice system. The TASC model was first described in 1972 by the Special Action Office of Drug Abuse Prevention. Through funding from the National Institute on Drug Abuse (NIDA) and the Law Enforcement Assistance Administration (LEAA), six programs were created in 1972. TASC had expanded to 130 sites by 1982 when LEAA and Federal funding were terminated. In 1984, as a testament to their perceived value, 100 programs were locally funded in 18 jurisdictions. Renewed Federal interest and the 1980s "war on drugs" saw TASC expand to the current 185 programs in 24 States and 2 territories. TASC programs surveyed by the National Consortium of TASC Programs in 1987 reported that 30,000 clients were served in 60 reporting TASC programs in 14 States during 1986. The majority of these TASC clients were adults between the ages of 25 and 40, 82 percent were male, and 53 percent were minorities. Seventy-eight percent were charged with a felony arrest, and 75 percent had prior arrests. Sixty-six percent were polydrug abusers; drug users would not receive treatment without TASC outreach. TASC is critical in reaching previously unserved drug users, because 67 percent of TASC clients had received no

alcohol and other drug treatment. The need for ancillary services beyond primary substance abuse treatment was illustrated by 50 percent being unemployed and 52 percent lacking high school diplomas (Tyon 1988).

Recent interest in TASC has expanded from the basic assumptions noted above to interest based on a new understanding of the efficacy of compulsory treatment (Leukefeld and Tims 1988; Hubbard et al. 1989). These studies document the success of coerced treatment for drug-involved offenders. The most important identified variable in these studies appears to be extended retention in treatment for offenders who participate under court order. This interest in TASC requires a renewed look at how TASC works to lengthen stay and ultimately enhance treatment outcomes.

THE DRUG-CRIME CONNECTION

Criminal justice system studies reveal that drug abusers can be found throughout the justice process and that a significant amount of crime is related to alcohol and other drugs. "The link between drug use and crime has been firmly established, making it difficult to discuss one to the exclusion of the other" (Bureau of Justice Assistance 1989). Research by Ball and colleagues (1980) has revealed that offenders commit six times the number of crimes when addicted to drugs than when not addicted.

The influence of drugs on pretrial criminality is borne out in findings from a Washington, DC, study (Toborg et al. 1986), which showed that the pretrial rearrest rates were *50 percent higher* for released drug users than nonusers. The Washington, DC, study also found that the rearrest rate is directly related to the severity of drug abuse. For example, offenders who tested positive for one drug had a 22-percent rearrest rate, those who used two drugs had a 28-percent rearrest rate, and those who used three or more drugs had a 40-percent rearrest rate.

State prison inmates are disproportionately involved in serious drug use (Chaiken and Chaiken 1982; Innes 1988). The Innes analysis, based on data collected in 1986 during interviews with more than 13,700 inmates in State correctional facilities, indicates that 35 percent were under the influence of a drug at the time of their offense and 43 percent said they were using drugs daily in the month before the offense.

Drug use among offenders is extremely high. According to reports from the Drug Use Forecasting System (DUF) of the National Institute of Justice (1989), as many as 75 percent of the men arrested in 10 major U.S. cities tested positive for recent use of illicit drugs. The data indicate that in many cities

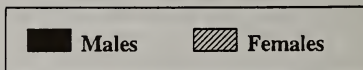
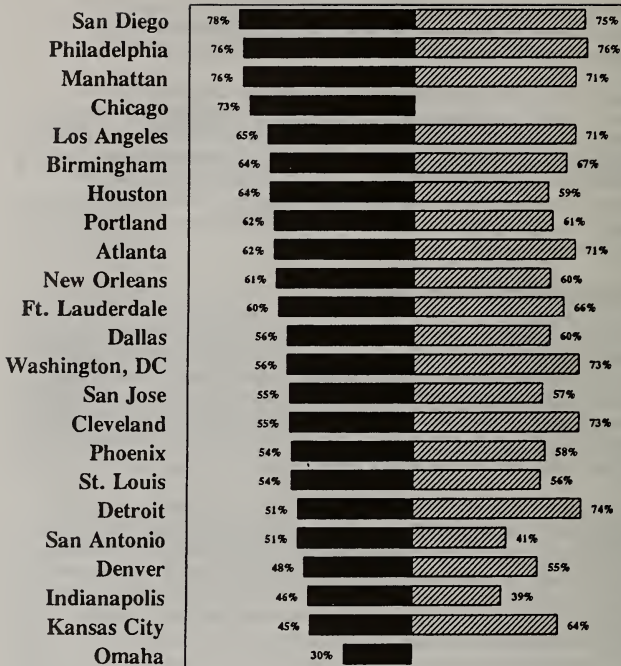


FIGURE 1. *Percent drug-positive urinalysis, by DUF site, 1990*

SOURCE: National Institute of Justice 1990

the extent of drug use by female offenders may even be higher than that of male offenders (figure 1). This study noted that women arrestees are more likely than men to test positive for any drug and more likely to test positive for heroin or cocaine.

Offenders interviewed through the DUF program indicate that many desire and need treatment (figure 2). However, most offenders have never received treatment (Tyon 1988). To obtain treatment, offenders need structured methods to access treatment programs. The evidence that successful drug abuse treatment reduces crime (Simpson et al. 1978; McGlothlin et al. 1977; Nash 1976), along with criticisms of traditional criminal justice approaches to dealing with drug-abusing offenders (Lipton et al. 1975; Carter and Klein 1976), has reinforced the need for programs—such as TASC—that link offenders to treatment and provide a broad continuum of care. When treatment is offered, it seems to work best when the offender is released into the community through a structured case management approach (Collins and Allison 1983).

DOES TASC WORK?

TASC programs are effective in linking the criminal justice system with the treatment system and bringing treatment to offenders who otherwise will not

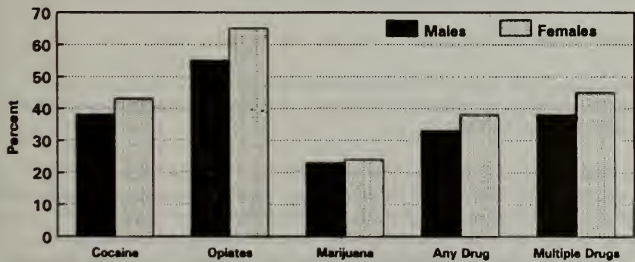


FIGURE 2. *Need for treatment among arrestees testing positive for drugs**

*Data based on self-reports of booked arrestees, 1989

SOURCE: National Institute of Justice 1991

receive it (System Sciences, Inc. 1979). TASC programs seem to work because they gain the broad-based support of the justice and treatment systems. Their legally sanctioned referral mechanism has been found to be

more effective than informal referrals to treatment. Their monitoring function has been found to improve the client's treatment performance, and TASC's involvement seems to reduce rearrest rates (Lazar Institute 1976). TASC offers programs as a cost-effective alternative to the criminal justice system for handling drug-abusing offenders; its functions and procedures work; it is capable of intervening prior to trials; its legal sanctions improve the treatment process; and it can achieve "remarkably progressive" success rates with clients (System Sciences, Inc. 1978).

Another reason TASC seems to work is that it imposes treatment in the context of program rules and graduated sanctions. When applied in a timely and consistent manner, these rules and sanctions prolong treatment stays and improve outcomes (Collins and Allison 1983). The length of time in treatment (retention) has been associated with positive outcomes (Simpson 1981; Hubbard et al. 1988). TASC clients have been found to remain in treatment, both residential and outpatient, 6 to 7 weeks longer than other criminal justice-referred or voluntary clients and to improve as much in relation to drug use, employment, and criminal behavior as "voluntary" clients during their first 6 months of treatment (Hubbard et al. 1988; Collins and Allison 1983).

HOW DOES TASC WORK?

How does TASC function as a case management model to retain clients in treatment? Are the procedures employed criminal justice functions or treatment functions? Does it matter?

In 1986, because of renewed interest in TASC by the Department of Justice, personnel from TASC programs were brought together to define common program structures and attributes that contribute to successful TASC programing. The result was the identifying of critical program elements (listed below) and accompanying performance standards. These were then published by the Department of Justice as a program brief (Bureau of Justice Assistance 1988) and by NIDA in a research monograph (Cook and Weinman 1988). More recently, the National Consortium of TASC Programs has developed program assessment protocols based on these critical elements and performance standards. These have been "field tested" in selected programs at multiple sites around the Nation.

- Organizational elements

- Element 1: a broad base of support within the *justice system* with a protocol for continued and effective communication
- Element 2: a broad base of support within the *treatment system* with a protocol for continued and effective communication
- Element 3: an independent TASC unit with a designated administrator
- Element 4: policies and procedures for required staff training
- Element 5: a data collection system to be used in program management and evaluation

- Operational elements

- Element 6: several agreed-on offender eligibility criteria
- Element 7: procedures for the identification of eligible offenders that stress early justice and treatment intervention
- Element 8: documented procedures for assessment and referral
- Element 9: documented policies and procedures for random urinalysis and other physical tests
- Element 10: procedures for offender monitoring that include criteria for success/failure, required frequency of contact, schedule of reporting, and notification of termination to the justice system

TASC programs seem to either adopt a criminal justice orientation or place greater emphasis on treatment depending on the program's parent organization or a general philosophy that has evolved in the program. There are clear variations in the management of TASC clients. Some TASC programs are more "system centered" as an extension of criminal justice system control. Other TASC programs are more "client centered," focusing on the rehabilitation needs of the offender (R. Hendrix, personal communication, March 1992). A mix of both seems to produce the healthy symbiosis of criminal justice system leverage, access to treatment, and therapeutic tension. When TASC works best, this mix is maintained by active case management and ongoing TASC contact with the offender, the treatment system, and the criminal justice system.

TASC CASE MANAGEMENT

Case management in substance abuse treatment is usually defined as the process that links individuals in treatment with ancillary community services. It is usually seen as an adjunct to primary treatment and as an enhancement to treatment. It builds on services already offered by primary substance abuse treatment programs. Enhancements often include eliminating barriers to treatment participation, expanding access to complementary social services, making referrals and coordinating the services obtained, monitoring progress, adjusting plans as required, and serving as patient advocates. TASC programs generally provide all these elements of case management.

TASC case management provides, in addition to traditional case management functions, structured linkages between the criminal justice system and the treatment system. This structure, defined in the TASC critical elements as outlined in the TASC program brief and listed above, is programmatically measured by performance standards that accompany each element. It is notable that the operational elements build on and help maintain the first two organizational elements—broad-based support of the criminal justice system and broad-based support of the treatment system.

TASC criminal-justice-related case management objectives include (1) increasing control and supervision through urinalysis, (2) reducing drug use and criminal behavior through supervision and treatment, (3) broadening the range of criminal justice sanctions, (4) providing systems of graduated and intermediate sanctions, (5) offering treatment in lieu of punishment, (6) reporting to the criminal justice system, (7) providing a basis for judicial decisionmaking, and (8) extending the power of the court to influence behavior in an area most critical to community safety.

Treatment-related TASC objectives include (1) screening offenders for treatment eligibility; (2) assessing the level of treatment need; (3) referring offenders to appropriate treatment programs and thereby providing better utilization of resources; (4) orienting clients to the treatment system through treatment readiness groups and individual counseling; (5) retaining clients in treatment using criminal justice leverage; (6) supporting treatment compliance with urinalysis and case management; (7) accessing ancillary social, educational, vocational, and medical services for clients; and (8) providing treatment within a structure where failure to comply has consistent and predictable results yet is flexible enough to accommodate the reality of addiction and the "process" of treatment.

TASC Operational Elements

The activities of case managers operating within TASC model programs support these goals. These activities are organized within the TASC operational elements 6 through 10 and their accompanying performance standards. These activities bring life to a TASC program.

Element 6. This element requires clearly defined client eligibility criteria. TASC programs require that participants be involved with the justice system and that they use alcohol or other drugs. Beyond these basic requirements, each program builds eligibility criteria based on the resources available, the justice system's or funding entities' expectations of the program, and the role TASC is expected to play vis-a-vis probation or pretrial services. These criteria are usually defined by designating "linkage points" in the criminal justice process or by accepting or excluding offenders by, for example, charge, age, mental status, or previous TASC involvement. TASC is capable of intervening from the time of arrest through parole, with juveniles or adults, and with all types of offenses. TASC programs routinely serve offenders as they move forward through the justice system, coordinating services throughout the process. Case managers are responsible for measuring offenders against these eligibility criteria and admitting or denying access to TASC services. This is accomplished through case manager interaction with jail officials, judges, probation officers, or other referral sources; by reviewing jail, court, and TASC records; or through direct interaction with the offender. Clearly communicating eligibility criteria to referring agencies or persons in the justice system aids the identification process and reduces inappropriate referrals.

Element 7. The formalized process of qualifying offenders for TASC is outlined through element 7, screening procedures for early identification of TASC candidates within the criminal justice system. Screening of offenders involves selecting appropriate candidates for treatment from the pool of eligible offenders. Early criminal justice and treatment intervention is stressed, and most TASC programs develop eligibility criteria stressing early involvement. Case managers, sometimes referred to as "screeners," interview offenders in the jail, at court, or in the TASC facility. The case manager verifies eligibility criteria, explains TASC program requirements to the offender, and reviews the possible positive and negative aspects of participating in the program. The case manager may use a urine test as a screening tool in making this initial determination of eligibility. The case manager plays a critical role in representing the opportunity for change or help that is available to the offender through treatment. This intervention often occurs at a critical point in the offender's life when the ultimate consequences of his or her drug-using and criminal behavior have finally been realized. The ability of the TASC case

manager to motivate the client to turn this crisis into an opportunity for life change is exercised at this point. The case manager also plays a critical role by defining rules, structure, and expectations of the offender if he or she chooses to participate in the program. This includes objectively reporting progress or lack of progress to the criminal justice system.

Element 8. The process of assessment and referral is outlined through element 8, documented procedures for assessment and referral. Performance standards require documentation of a face-to-face assessment with each TASC client within a specified time from initial contact. The TASC case manager or a TASC assessment specialist conducts the assessment utilizing a standardized assessment tool. The TASC assessment combines basic clinical evaluation with criminal justice risk assessment. Drug use history, criminal history, family history, community ties, employment, education, and previous treatment are explored. Assessment instruments such as the Offender Profile Index or the Addiction Severity Index are often used to sort offenders to various interventions and treatment modalities. The end product of the assessment is a case management plan that outlines service needs over time. The client is then referred to the most appropriate treatment program. Documentation is forwarded by the case manager to the chosen treatment facility. Case managers follow up with treatment facilities and the offender or his family to ensure that the offender keeps the scheduled intake appointment. When there are waiting lists, the case manager monitors the offender's stability until a bed or slot becomes available. It is essential that TASC support offender treatment that provides thorough clinical assessment of the client's needs, which are often multidimensional. The treatment response should be substantial enough that the offender "feels" it. It should be protracted and "phased" to extend involvement. There should be family involvement, and positive recovering role models should be available in the treatment setting and through support groups. The treatment program and TASC should mutually support rules, structures, and sanctions. TASC case managers and treatment staff should maintain access to as full a continuum of care as possible, and there should be formalized linkages to other needed services in the community.

Element 9. Element 9 requires program policies, procedures, and technology for monitoring TASC clients' drug use/abuse status through urinalysis or other physical evidence. For criminal justice officials to choose treatment as an alternative to incarceration, they require offenders to be monitored frequently for continued drug use. Urinalysis provides objective documentation of drug use. It is the case manager's role to determine the frequency of drug testing and the drugs to be tested for. The case manager reviews test results, reports compliance to the court or other criminal justice officials, and periodically adjusts the frequency of testing as indicated by the offenders' success in

"staying clean." Breathalyzer tests and alcohol-sensitive saliva sticks are used as adjuncts to the drug test.

Element 10. TASC element 10 requires monitoring procedures for ascertaining clients' compliance with established TASC treatment criteria and regularly reporting their progress to referring justice system components. TASC cannot function effectively without maintaining a high level of credibility with the criminal justice system through careful monitoring of compliance with the case management plan. Case managers review progress reports from treatment agencies, react as needed, and disseminate these reports to the justice system. Case managers also document each client contact or any collateral contact regarding the client in the client's file. They are responsible for measuring client performance against standardized success/failure criteria. Case managers terminate clients based on success in (1) completing their case management plan, (2) treatment, and (3) compliance with court mandates. On the other hand, they terminate clients for absences, positive urinalysis tests, new offenses, and other failure criteria. Many TASC programs incorporate systems of "graduated sanctions" or progressive responses when clients do not comply with the requirements of the case management plan. These strategies intensify treatment and monitoring. They may also incorporate criminal justice sanctions. Case managers actively manage the rehabilitation of clients through the assessment and reassessment of client needs; through planning the flow or order in which services occur; through linking to primary treatment and ancillary educational, vocational, and social services; and by serving as advocates for offenders in both the criminal justice and treatment systems.

The "active" case manager uses criminal justice leverage and his or her neutral position to communicate clearly and effectively to the client the program's expectations and the consequences of failure. Case managers must be well trained in the workings of the criminal justice and treatment systems. They must be respected in both systems to effectively accomplish the TASC mission, which is as follows:

- Reduce the criminality of drug-dependent offenders by maximizing the rehabilitative aspects of the treatment and criminal justice systems
- Work within the justice system to identify, assess, and refer to treatment those offenders who are dependent on alcohol or other drugs
- Work within the treatment system to support offender participation with criminal justice leverage

TASC's philosophy is to act as a bridge between the justice system (with legal sanctions that reflect community concerns for public safety) and the treatment community (with emphasis on changing individual behavior and reducing the personal suffering associated with substance abuse). Through TASC, community-based treatment is made available to drug-dependent offenders who would otherwise burden the justice system with their persistent criminal behavior.

TASC CASE MANAGEMENT: WOMEN OFFENDERS

It should be noted that trends indicate that increasing numbers of TASC clients will be women. The number of women entering the criminal justice system is reflected in a 41-percent increase in the number of women incarcerated between 1985 and 1988 (O'Connor 1989). Between 1984 and 1988 the number of women arrested for violent crimes rose nearly 29 percent. Women offenders in TASC may require special attention as a unique group with distinct needs (National Consortium of TASC Programs 1991). Substance abuse represents a more significant risk of acquired immunodeficiency syndrome (AIDS) for female offenders than for males. Intravenous (IV) drug use has been associated with the majority of AIDS cases among women (Koonin et al. 1989), and women are more likely than men to live with an addicted partner and to share drug paraphernalia (Anglin et al. 1987). Rosenbaum (1981) found that only one-third of the women sampled had ever shot heroin alone, whereas three-fourths of the men had used alone. Addicted women have a greater tendency to have multiple sex partners (many of whom are IV drug users) as a means of obtaining drugs (Drug Abuse Report 1987). The National Consortium of TASC Programs (1991) report on female offenders suggested these implications for the treatment of female TASC clients: (1) Although fewer women than men are arrested, their need for treatment is the same or greater. (2) Cocaine use is the most widespread problem among women (as with men), but the potential for heroin addiction may be higher with women. (3) Many women addicts begin their drug use as a result of a relationship with a man; dealing with this relationship may be critical during treatment. (4) Women develop addiction later than men, but a larger proportion move quickly to an active addiction following first use. Thus, early intervention should be stressed.

TASC staff members surveyed as a part of the Consortium study uniformly pointed out that child care *must* be included in a treatment regime for it to be successful and that women addicts suffer a much greater degree of stigmatization than do male addicts. It is critical that TASC programs and case managers be prepared to advocate for treatment that is sensitive to the needs of female clients. Ancillary services, including primary medical care, must be obtained to support a woman's successful participation in treatment.

IMPLICATIONS FOR RESEARCH

More than 40 local program evaluations took place between 1972 and 1982. Most found TASC effective in linking the criminal justice and treatment systems. Most studies of TASC have shown that lack of data collection and evaluation as critical program elements has hindered TASC programing (Bureau of Justice Assistance 1988). It should be noted that there has never been a *national* evaluation of the entire TASC effort, but three representative studies are under way. NIDA is currently funding a six-site TASC evaluation that will evaluate TASC clients against a set of controls not receiving TASC services. An extensive process evaluation of the six sites will be incorporated in the study, and AIDS risk reduction effects will be monitored. Also, the General Accounting Office is currently conducting a multisite review of TASC programs for the U.S. Congress. The third study, a three-site Focused Offender Disposition Project funded by the Bureau of Justice Assistance, is nearing completion. Conducted in three TASC sites (Birmingham, AL, Phoenix, AZ, and Chicago, IL), the project randomly assigned presentence offenders either to urinalysis monitoring only or to treatment in order to study treatment effect. Within the study a new assessment tool was employed to sort offenders assigned to treatment to different treatment modalities. Accurate client/treatment matching will be studied through examining retention in the assigned treatment.

Certainly, TASC could profit from additional evaluation. Areas of potential research include treatment outcomes of TASC clients, cost-benefit analysis, relative effect of linkage to treatment at different criminal justice system points, and criminal justice and treatment histories of TASC clients as a predictor of outcome. The data necessary to pursue such research efforts have not been readily available in many TASC programs. In response to this problem, a Model Management Information System has been developed by Search Group Inc. under contract with the Bureau of Justice Assistance. It is hoped that this system coupled with an active National Consortium of TASC Programs will promote data acquisition and evaluation efforts.

CONCLUSION

The majority of offenders use alcohol or other drugs and most offenders normally would not receive treatment through conventional mechanisms. TASC provides a formalized program structure to offer treatment and case management services to this population. This program structure is incorporated in 10 critical elements that provide the framework for case management. TASC case management activities and TASC program structure support both criminal justice system and treatment system goals as well as the welfare of the client and the community. Treatment is enhanced by the leverage afforded

by the continuous support of TASC case management. TASC clients stay in treatment longer, and this enhances ultimate outcomes. Through TASC, the power and accountability of the criminal justice system can be used to push offenders into the treatment system and keep them there. The treatment system uses this control and support for treatment to promote sobriety as the client works to gain control over his or her own life.

REFERENCES

- Anglin, M.D.; Hser, Y.; and McGlothlin, W.H. Sex differences in addict careers: Initiation of use. *Am J Drug Alcohol Abuse* 13(3):231-251, 1987.
- Ball, J.C.; Rosen, L.; Flueck, J.A.; and Nurco, D.N. "The Criminality of Heroin Addicts: When Addicted and When Off Opiates." Paper presented to International Congress on Alcoholism and Drug Dependence, Medellín, Colombia, December 3-6, 1980.
- Bureau of Justice Assistance. *Treatment Alternatives to Street Crime: TASC Program Brief*. Washington, DC: U.S. Department of Justice, Office of Justice Programs, 1988.
- Bureau of Justice Assistance. *FY 1988 Report on Drug Control*. Washington, DC: Bureau of Justice Assistance, 1989.
- Carter, R.M., and Klein, M.W., eds. *Back on the Street*. Englewood Cliffs, NJ: Prentice-Hall, 1976.
- Chaiken, J.M., and Chaiken, M.R. *Varieties of Criminal Behavior*. Santa Monica, CA: RAND Corporation for the U.S. Department of Justice, National Institute of Justice, August 1982.
- Collins, J.J., and Allison, M. Legal coercion and retention in drug abuse treatment. *Hosp Community Psychiatry* 34(12):1145-1149, 1983.
- Cook, L.F., and Weinman, B.A. Treatment Alternatives to Street Crime. In: Leukefeld, C.G., and Tims, F.M., eds. *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. National Institute on Drug Abuse Research Monograph 86. DHHS Pub. No. (ADM)89-1578. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 99-105.
- Drug Abuse Report. Women, intravenous drug use and AIDS. In: *What Every Drug Counselor Should Know About AIDS*. (Special issue.) Manisses Communication Group, Providence, RI, 1987.
- Hubbard, R.L.; Collins, J.J.; Rachel, J.V.; and Cavanaugh, E.R. The criminal justice client in drug abuse treatment. In: Leukefeld, C.G., and Tims, F.M., eds. *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. National Institute on Drug Abuse Research Monograph 86. DHHS Pub. No. (ADM)89-1578. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 57-80.

- Hubbard, R.L.; Marsden, M.E.; Rachel, J.V.; Harwood, H.J.; Cavanaugh, E.R.; and Ginzburg, H.M. *Drug Abuse Treatment: A National Study of Effectiveness*. Chapel Hill, NC: University of North Carolina Press, 1989.
- Inciardi, J.A., and McBride, D.C. *Treatment Alternatives to Street Crime: History, Experiences, and Issues*. National Institute on Drug Abuse. DHHS Pub. No. (ADM)91-1749. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1991.
- Innes, C.A. *Profile of State Prison Inmates 1986*. Bureau of Justice Statistics Special Report. Washington, DC: U.S. Department of Justice, January 1988.
- Koonin, L.M.; Ellerbrock, T.V.; Atrash, H.K.; Rogers, M.F.; Smith, J.C.; Hogue, C.J.R.; Harris, M.A.; Chavkin, W.; Parker, A.L.; and Halpin, G.J. Pregnancy-associated deaths due to AIDS in the United States. *JAMA* 261(9):1305-1308, 1989.
- Lazar Institute. *Phase I Report, Treatment Alternatives to Street Crime (TASC) National Evaluation Program*. NCJ #34057. Washington, DC: Law Enforcement Assistance Administration, 1976.
- Leukefeld, C.G., and Tims, F.M. Compulsory treatment: A review of the findings. In: Leukefeld, C.G., and Tims, F.M., eds. *Compulsory Treatment of Drug Abuse: Research and Clinical Practice*. National Institute on Drug Abuse Research Monograph 86. DHHS Pub. No. (ADM)89-1578. Washington, DC: Supt. of Docs., U.S. Govt. Print. Off., 1988. pp. 236-251.
- Lipton, D.; Martinson, R.; and Wilkes, J. *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies*. London: Praeger, 1975.
- McGlothlin, W.H.; Anglin, M.D.; and Wilson, B.D. A followup of admissions to the California Civil Addict Program. *Am J Drug Alcohol Abuse* 4(2):197-199, 1977.
- Nash, G. An analysis of twelve studies of the impact of drug abuse treatment upon criminality. In: *Drug Use and Crime. Report of the Panel on Drug Use and Criminal Behavior*. Research Triangle Park, NC: Research Triangle Institute, 1976. pp. 231-271.
- National Consortium of TASC Programs. *Implications of the Drug Use Forecasting Data for TASC Programs: Female Arrestees*. Washington, DC: Bureau of Justice Assistance, 1991.
- National Institute of Justice. *DUF Quarterly Report*. Washington, DC: Research in Action, April to June 1989.
- National Institute of Justice. *Drugs and Crime: Drug Use Forecasting Annual Report*. Washington, DC: National Institute of Justice, 1990.
- National Institute of Justice. *DUF Forecasting Program*. Washington, DC: National Institute of Justice, April 1991.
- O'Connor, M. New breed of female criminals is crowding prisons. *Chicago Tribune*, December 3, 1989. p. 14.

- Rosenbaum, M. Sex roles among deviants: The woman addict. *Int J Addict* 16(5):859-877, 1981.
- Simpson, D.D. Treatment for drug abuse: Followup outcomes and length of time spent. *Arch Gen Psychiatry* 38(8):875-880, 1981.
- Simpson, D.D.; Savage, L.J.; Lloyd, M.R.; and Sells, S.B. *Evaluation of Drug Abuse Treatments*. DHEW Pub. No. (ADM)78-701. Rockville, MD: National Institute on Drug Abuse, 1978.
- System Sciences, Inc. *Final Report—Evaluation of TASC, Phase II*. NCJ #51931. Bethesda, MD: Law Enforcement Assistance Administration, 1978.
- System Sciences, Inc. *Evaluation of Treatment Alternatives to Street Crime: National Evaluation Program, Phase II Report*. Washington, DC: National Institute of Law Enforcement and Criminal Justice, 1979.
- Toborg, M.A.; Bellassai, J.P.; and Yezer, A.M.J. "The Washington, DC Urine-Testing Program for Arrestees and Defendants Awaiting Trial: A Summary of Interim Findings." Paper presented at the National Institute of Justice conference, Drugs and Crime: Detecting Use and Reducing Risk, Washington, DC, June 1986.
- Tyon, L.P. "Final Report: Baseline Management and Assessment Data Project." Unpublished report, National Consortium of TASC Programs and the Bureau of Justice Assistance, Portland, OR, 1988.

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Case Management Community Advocacy for Substance Abuse Clients

Rebecca Sager Ashery

INTRODUCTION

The purpose of this chapter is to discuss case management community advocacy, its importance as an integral part of the case management process, and its specific relevance to substance abuse clients. In addition, cost-containment issues and research evaluation are addressed in relation to advocacy as a part of case management.

BACKGROUND

Case management has long been associated with social work, and social workers have been and continue to be leaders in this domain (Roberts 1987; Lamb 1980; Rothman 1991; Austin 1983). The impetus, however, for the growth of case management models that continue to evolve today was events such as the categorization (which resulted in fragmentation) of social service in the late 1960s and the release of patients from State mental hospitals in the early 1970s (Turner and TenHoor 1978; Schulberg and Bromet 1981; Intagliata 1982; Rapp and Chamberlain 1985).

The Joint Commission on Accreditation of Hospitals (1979) has identified five functions for case management that have been accepted by various authors in the literature with some slight variations: (1) assessment, (2) planning, (3) linkage, (4) monitoring, and (5) advocacy, including resource development (Sullivan 1981; Intagliata 1982; Johnson and Rubin 1983; Kaplan 1991). The board of directors of the National Association of Social Workers (1992) has addressed standards for *social work case management*, which include elements such as assessing, arranging, coordinating, monitoring, evaluating, and advocacy. Social work case management addresses the client's biopsychosocial status as well as the social systems in which case management operates. The standards state that social work case management is both micro and macro in nature with intervention occurring at both the client and systems levels. The board

recognized that there is no one definitive model of social work case management.

Although several models exist (Lamb 1980; Kisthardt and Rapp 1989; Inciardi et al. 1991; Rothman 1991; Willenbring et al. 1991; Cook, this volume; Levy, this volume; Ridgely and Willenbring, this volume), there has been no overall agreement on the operational definitions of the various functional components and activities of case management. To complicate matters, case management is mainly regarded as a process utilized to reach a goal rather than as a goal itself (Kaplan 1991; Ridgely and Willenbring, this volume; Franklin et al. 1987).

CASE MANAGEMENT AND SUBSTANCE ABUSE

Case management functions have been operative in the field of mental health for the past 20 years, stimulated by the Federal Government and the impetus to access services for chronically mentally ill persons released from State mental hospitals. Case management for substance abusers initially gained attention through the Treatment Alternatives to Street Crime (TASC) program, which began in 1972 and has grown to 185 programs that link the criminal justice system with the drug abuse treatment system (Cook, this volume). Notwithstanding the TASC program, case management for substance abusers in drug treatment programs has gained attention only within the past 6 years. This is reflected in the few descriptive articles on case management and substance abuse in the literature and the lack of randomized clinical trials or evaluation protocols for case management with substance abusers. This volume contains papers presented at the National Institute on Drug Abuse (NIDA) technical review, "Progress and Issues in Case Management," that represent the cutting edge for these studies.

Why has case management not been an integral part of drug treatment in the past, and why has it become important to the field of substance abuse today? The answers can be found in the history of substance abuse treatment and the current nature of the drug epidemic. In the mid-1960s, drug treatment programs were developed as separate entities from health programs and were not considered a part of the health care delivery system. The two systems (drug treatment and health care) largely grew separately with infrequent communication and coordination between the two. There have also been few linkages between drug treatment programs and the child welfare system. This may have been because treatment programs in the past have not been geared toward the needs of women.

Two events within the past 10 years are forcing linkages among the substance abuse treatment system, the health care delivery system, and

the child protective service system: the acquired immunodeficiency syndrome (AIDS) epidemic and the crack/cocaine epidemic. The advent of the human immunodeficiency virus (HIV) and AIDS has catapulted the importance of case management to center stage. One can no longer speak of substance abuse without speaking of HIV and AIDS. Currently, and in the future, drug treatment programs will be serving clients along the spectrum of HIV disease and may well be the primary program with which clients who are HIV positive will be associated. This necessitates the development of community linkages. It is now imperative that treatment programs develop close ties with health departments, hospitals, housing programs, entitlement programs, home health care agencies, and other service resources.

In recognition of the urgency to develop linkages and collaborative efforts, a national conference on HIV and substance abuse (U.S. Department of Health and Human Services 1990) was jointly sponsored by four Federal Government agencies and two private professional associations specifically to encourage (1) development of joint policies and collaborative activities between State health departments and State substance abuse agencies and (2) collaborative efforts between the States and the Federal Government.

To encourage the development of linkages between the primary health care system and substance abuse treatment services, a special demonstration program has been jointly funded by the Alcohol, Drug Abuse, and Mental Health Administration and the Health Resources and Services Administration (Schlenger et al., this volume). These programs use various models of case management to link primary care and substance abuse treatment programs.

The crack/cocaine epidemic has been blamed for the burgeoning case overload in the child protective service system. Crack is highly appealing to women, which translates into abandoned infants who are fetally exposed to crack and born with varying degrees of physical consequences and children who are abused and/or neglected as these women pursue their addiction. A survey by the American Public Welfare Association (Besharov 1990) of all 50 States found that child welfare agencies showed an unprecedented increase of 29 percent in the number of children entering foster care from June 1987 to June 1990. This increase was associated with the crack epidemic. Newspaper articles (Taylor 1992; Lewis 1992) directly link the increase of children in child protective services to the crack/cocaine epidemic. A study comparing children in foster care whose families had parental drug abuse with children in foster care whose families did not have a drug abuse background indicated that many of the parental service needs of drug-abusing parents, such as drug treatment, housing, parenting education, employment, and financial services, remained as barriers to reunification at the end of the study period (Walker et al.

1991). Moreover, the link between child welfare services and substance abuse treatment services was weak. In one study, referrals for drug rehabilitation were offered to parents before child placement in foster care in only 16 percent of the cases (National Black Child Development Institute, Inc. 1989). Particularly, services for pregnant addicts and female addicts with infants and young children were not being addressed comprehensively or systematically (Rahdert, this volume).

COMMUNITY SERVICE SYSTEMS OVERLOAD

Although there is an urgent need to develop the case management process, workers find themselves overwhelmed by both case overload and community service systems overload. Waiting lists for drug treatment programs predominate, and in many instances, programs for women and pregnant addicts either do not exist or cannot meet the need. Child protective service agencies have been forced to prioritize their services because of an increase in reports of child abuse and neglect and lack of resources (National Black Child Development Institute, Inc. 1989). Substance abuse HIV/AIDS cases have overburdened the health care system in some cities because of the multiplicity of needs and complexity of health complications.

The question is: Can case management be successful in a service system that is overloaded? Can services be brought to clients when no service resources exist? Austin (1988) has stated as a myth of case management: "Case Managers can effectively manage scarce resources and have enough authority to perform their jobs well." She emphasizes that the responsibility of managing scarce resources assumes that there are service resources to manage. She advocates that case managers have sufficient fiscal authority to effectively perform their jobs and enable them to purchase services—again assuming that services exist. Rothman (1991) expresses concern that case management can become a panacea to take pressure off politicians and government leaders to respond to needs. In discussions at NIDA's technical review on "Progress and Issues in Case Management," concerns were expressed that case managers are becoming "professional beggars" within the community. Many projects reported that they were able to obtain services for clients, not because of a formalized, structured referral mechanism within the community, but because of personal relationships with workers in other agencies and quid pro quo agreements. Some projects had available dollars to purchase services, yet expressed concerns that while they were able to obtain services for their own clients, they were literally pushing other clients farther down on the waiting list. Essentially, they were using additional service dollars to skillfully jockey for scarce resources. There are growing concerns that case management may promise more than it can deliver and that it does

not adequately address or account for gaps in resources and system failure. In other words, case management cannot and should not be expected to ameliorate a faulty service system.

CASE MANAGEMENT AND ADVOCACY

Because of the above issues, it is essential that case management models include advocacy. According to Kaplan (1991), advocacy can have a client-specific focus ensuring coordination activities and agency responsiveness by the worker on behalf of the client or a systems-level approach to identify and fill gaps in scarce resources. In terms of social work vocabulary, one might refer to the micro and macro elements of case management (National Association of Social Workers 1992). *Micro* refers to the agency, staff, and client level, that is, the interactions between the worker and the client. *Macro* (Rothman 1979) refers to the community systems level, that is, identifying gaps in services, addressing gaps in resources, developing appropriate liaisons and referral mechanisms with community agencies, forming community coalitions, breaking barriers to access, and presenting issues to the mayor, city council, or State legislature. Graham and Timney (1990) have used the terms "client advocacy" and "class advocacy." Intagliata (1982) identifies three models of case management based on a continuum that ranges from client-focused activities to community-focused activities, including advocacy for resource development. In the late 1970s the National Institute of Mental Health recognized the need for a community support program that would focus on a comprehensive systems approach and continuity of care for severely mentally disabled adults (Turner and TenHoor 1978; Levine and Fleming 1985). Specific systems-level activities engaged in by social workers include, but are not limited to, resource development, financial accountability, social action, agency policy formation, data collection, information management, program evaluation, and quality assurance (National Association of Social Workers 1992). The National Association of Social Workers recognizes that systems intervention occurs along a continuum and comprises an ongoing, uninterrupted cycle of tasks that are performed by the social work case manager.

Of the functions of case management, systems- or community-level advocacy is probably the least understood and is seldom discussed in the literature. Birchmore-Timney and Graham (1989) found that most liaison or advocacy types of case management functions were provided infrequently and that most programs defined their case management role narrowly. Kurtz and colleagues (1984) found that more than 75 percent of the workers in their study seldom engaged in advocacy activities or linking activities; only 12 percent of the workers in the study actively engaged in activities to encourage

resource development. The majority of activities were client oriented, including assessment, planning, and monitoring. For the most part, monitoring did not include followup services after discharge or consultation with other agencies regarding the client's progress. In three illustrative examples of case management in addictions treatment presented by Graham and Timney (1990), community-level actions as opposed to case-level actions were not addressed, although there was some emphasis on interagency coordination. Fisher and colleagues (1988) found that advocacy accounted for only 10 percent of the services provided by case managers and linkage referral for only 13 percent.

It is unclear how community-level advocacy should be implemented. Intagliata (1982) and Levine and Fleming (1985) suggest a core community agency to ensure systems integration. The role of the core agency would be the development of a formal set of contracts among agencies to provide specific services, therefore eliminating the professional beggar role of case managers and the dependence on personal relationships to access services for clients. Additional roles would be the development of new service components. In other cases, an agency worker(s) may be designated as a community systems advocate whose specific responsibility may be to function on a systems level (Piette et al. 1992). Another model may involve case coordination with participating community agencies (McCarthy et al., this volume).

In any case, advocacy can represent a threat to the status quo of the system. Anthony and colleagues (1988) suggest that case managers plan an advocacy campaign when needs for service improvement are documented and actively persuade decisionmakers to be more responsive to clients' service needs. Intagliata (1982) suggests that case managers should act as catalysts in stimulating others to act. Piette and colleagues (1992) concede that community advocacy may be more likely to occur within agencies on the periphery of the established bureaucracy (i.e., community-based organizations) because they may not be politically tied to supporting traditional agency activities. There is even a question of how professionals can be true advocates (as opposed to special interest groups) when they are working for the establishment (Lamb 1980).

Using community advocacy to open some service doors to drug abusers may prove difficult. The substance abuse population served by public programs has the reputation of being the least desirable group with which to work, the most unstable, the most uncooperative, and the least understood by others. Some programs have specifically eliminated substance abusers by their eligibility criteria (National Center for Social Policy and Practice 1989).

It is this author's contention that case management cannot be successful for underserved populations, such as substance abusers, without an active community advocacy/systems intervention component that is integrated into the case management model. Most desirable is a citywide coalition of agencies engaging in several functions to ease the job of case managers on the client-worker level and to work together on a community level to increase scarce resources. Activities of this coalition should include (1) documentation of gaps in services, (2) documentation of service duplication, (3) examination of eligibility criteria, (4) formation of a comprehensive referral network with formalized mechanisms of referral, (5) development of communication channels between agencies, (6) ability to merge some services where needed, (7) ability to address gaps in services, (8) political advocacy for more resources and/or making changes in the service system, (9) data collection and evaluation, and (10) quality assurance of programs. Without a community advocacy approach, there is concern that case managers will spend an inordinate amount of time "spinning wheels" for individual clients in an effort to obtain services in a nonviable service system.

ANOTHER MYTH: COST-CONTAINMENT

Case management should not be considered as a method of cost-containment and should not be confused with managed care (Woodward, this volume; Mittler 1988). The overall purpose of case management is to link clients with services. Because clients need multiple services and the paucity of resources must be addressed, case management intervention most likely will not contain costs. Studies attempting to examine cost-containment issues have mixed outcomes in terms of dollars spent, dollars saved, and client outcomes (Borland et al. 1989; Goering et al. 1988; Bond et al. 1988; Franklin et al. 1987; Bigelow and Young 1991).

Increased costs are immediately evident because of lower client-to-worker ratios. In many methadone clinics, it is not unusual for a worker to have 100 cases with little opportunity for intensive intervention. The suggested ideal caseload for a case manager is 15 to 20 clients (National Center for Social Policy and Practice 1989; Goering et al. 1988; Harris and Bergman 1988). Borland and colleagues (1989) had a ratio of one worker to nine clients in their study. Levy and colleagues (this volume) has a ratio of two staff members (an outreach worker paired with a case manager) serving 50 clients. At a Health Resources and Services Administration meeting (Health Resources and Services Administration 1992), a caseload of 30 was suggested, which would include cases of diverse intensity of need with a maximum of 7 high-intensity cases. In addition to lower caseloads, client-worker contact is more frequent and intense. In three case studies on the

use of case management with substance abusers, the number of in-person client contacts ranged from 9 to 60 (Graham and Timney 1990). It should be noted that this number represents client contacts only and does not represent the case manager's contacts with referral agencies. Harris and Bergman (1988) found that, although the type of service did change over time, it is a myth that clients can be maintained with less intensive case management services after initial stabilization in the program. Lower caseloads coupled with frequent and intense contacts, along with community advocacy to bridge the gaps and create more resources, will not initially be cost-effective, nor will costs be contained. Case management is not a short-term investment. The investment in dollars for services and personnel may "pay off" only in terms of long-range prevention of further client deterioration and a gradual change in the client's life situation. Case management is but one component in a scheme to improve and enhance the lives of clients.

CASE MANAGEMENT RESEARCH

How does one measure "success" with case management, and where does community advocacy fit into the research? Chamberlain and Rapp (1991) found a paucity of outcome research on case management. A major question in case management studies is: What is being measured—the process of case management itself or a test of the effectiveness of other services? When conducting outcome studies on case management, the researcher is first confronted with all the problems inherent in conducting randomized clinical trials with difficult populations, that is, obtaining clients to participate in the study, dealing with problems of no-shows and dropouts, finding clients for followup, and addressing conflicts that may arise between the clinical and research staffs (Ashery and McAuliffe 1992; McAuliffe and Ashery, in press). Willenbring (this volume; Willenbring et al. 1991) emphasizes that qualitative study and documentation are as important as the quantitative measurements. Qualitative components include descriptive information regarding the community context in which the case management was located, the agency environment in which case management functions, linkages, resource availability, length of wait for services, participation in or receipt of referred services, activities of the case manager, and the case management process. Fisher and colleagues (1988) suggest that future research delineate a measurement of resource availability that could be considered as a variable affecting service provision. In addition, there should be documentation of the community advocacy process. Without an understanding and documentation of the qualitative information, quantitative information may be difficult to interpret or lead to an erroneous conclusion.

CONCLUSION

Case management community advocacy must be integrated into case management models for substance abusers. Case management without advocacy will perpetuate the role of the "professional beggar." Advocacy will compel agencies and communities to address barriers to access and gaps in services. It is important to have a coalition of agencies or community persons on a macro level to address these issues to facilitate the activities of case managers on the micro level or client-worker level. By its nature, case management for substance abusers and other underserved populations will increase costs rather than contain them. However, it is hoped that case management activities will reduce further client deterioration. Finally, all research studies should include qualitative data, such as the documentation of community advocacy activities and the gaps in resources.

REFERENCES

- Anthony, W.; Cohen, M.; Farkas, M.; and Cohen, B. Clinical care update: The chronically mentally ill case management—more than a response to dysfunctional system. *Community Ment Health J* 24(3):219-228, 1988.
- Ashery, R.S., and McAuliffe, W.E. Implementation issues and techniques in randomized trials of outpatient psychosocial treatments for drug abusers: Recruitment of subjects. *Am J Drug Alcohol Abuse* 18(3):305-329, 1992.
- Austin, C. "Case Management: Myths and Realities." Paper presented at the National Association of Social Workers Professional Symposium, Philadelphia, PA, November 11, 1988.
- Austin, C.D. Case management in long-term care: Options and opportunities. *Health Soc Work* 8(1):16-30, 1983.
- Besharov, D.J. Crack children in foster care. *Child Today* July/August:22-25/35-36, 1990.
- Bigelow, D., and Young, D. Effectiveness of a case management program. *Community Ment Health J* 27(2):115-123, 1991.
- Birchmore-Timney, C., and Graham, K. A survey of case management practices in addictions treatment. *Alcoholism Treat Q* 6(3/4):102-127, 1989.
- Bond, G.R.; Miller, L.D.; Krumwied, R.D.; and Ward, R.S. Assertive case management in three CMHCs: A controlled study. *Hosp Community Psychiatry* 39(4):411-418, 1988.
- Borland, A.; McRae, J.; and Lycan, C. Outcomes of five years of continuous intensive case management. *Hosp Community Psychiatry* 40(4):369-376, 1989.
- Chamberlain, R., and Rapp, C.A. A decade of case management: A methodological review of outcome research. *Community Ment Health J* 27(3):171-188, 1991.

- Fisher, G.; Landis, D.; and Clark, K. Case management service provision and client change. *Community Ment Health J* 24(2):134-142, 1988.
- Franklin, J.L.; Solovitz, B.; Mason, M.; Clemons, J.; and Miller, G. An evaluation of case management. *Am J Public Health* 77(6):674-678, 1987.
- Goering, P.; Wasylenko, D.; Farkas, M.; Lancee, W.J.; and Ballantyne, R. What difference does case management make? *Hosp Community Psychiatry* 39(3):272-276, 1988.
- Graham, K., and Timney, C.B. Case management in addictions treatment. *J Subst Abuse Treat* 7(3):181-188, 1990.
- Harris, M., and Bergman, H. Misconceptions about the use of case management services by the chronic mentally ill: Utilization analysis. *Hosp Community Psychiatry* 39(12):1276-1280, 1988.
- Health Resources and Services Administration, Bureau of Health Care Delivery and Assistance, Division of Special Populations Program Development. Meeting on Case Management for Special Populations, Washington, DC, July 7-9, 1992.
- Inciardi, J.A.; Martin, S.; and Isenberg, H. ACT assertive community treatment supports recovery for parolees with histories of injecting drugs. *Addict Recovery* March/April:31-35, 1991.
- Intagliata, J. Improving the quality of community care for the chronically mentally disabled: The role of case management. *Schizophr Bull* 8(4):655-674, 1982.
- Johnson, P.J., and Rubin, A. Case management in mental health: A social work domain? *Soc Work* 28(1):49-56, 1983.
- Joint Commission on Accreditation of Hospitals. *Principles of Accreditation of Community Mental Health Service Programs*. Chicago: Joint Commission on Accreditation of Hospitals, 1979.
- Kaplan, K.O. Recent trends in case management. In: *NASW Encyclopedia of Social Work*. 18th ed. (Suppl.) Silver Spring, MD: NASW Press, 1991.
- Kisthardt, W.E., and Rapp, C.A. "Bridging the Gap Between Principle and Practice: Implementing a Strengths Perspective in Case Management." Paper prepared under National Institute of Mental Health Grant No. MH-18807, Lawrence, KS: University of Kansas School of Social Welfare, February 1989.
- Kurtz, L.F.; Bagarozzi, D.A.; and Pollane, L.P. Case management in mental health. *Health Soc Work* 9(3):201-211, 1984.
- Lamb, R. Therapist-case managers: More than brokers of services. *Hosp Community Psychiatry* 31(11):762-764, 1980.
- Levine, I.S., and Fleming, M. *Human Resource Development: Issues in Case Management*. Sponsored by the Manpower Development Unit and Community Support Project, State of Maryland Mental Hygiene Administration, Baltimore, MD, May 1985.

- Lewis, N. Child neglect, abuse up 60% in D.C. *The Washington Post*, May 20, 1992. A-1.
- McAuliffe, W.E., and Ashery, R.S. Implementation issues and techniques in randomized trials of outpatient psychosocial treatments for drug abusers: II. Clinical and administrative issues. *Am J Drug Alcohol Abuse*, in press.
- Mittler, B. The case against case management. *Best's Rev* April:40, 1988.
- National Association of Social Workers, Board of Directors. *NASW Standards for Social Work Case Management*. Washington, DC: National Association of Social Workers, 1992.
- National Black Child Development Institute, Inc. *Who Will Care When Parents Can't? A Study of Black Children in Foster Care*. Washington, DC: National Black Child Development Institute, Inc., 1989.
- National Center for Social Policy and Practice. IVDU Case Management Working Seminar, sponsored by the National Center for Social Policy and Practice, National Institute on Drug Abuse, and Georgetown University Child Development Center, Rockville, MD, April 1989.
- Piette, J.; Fleishman, J.A.; Mor, V.; and Thompson, B. The structure and process of AIDS case management. *Health Soc Work* 17(1):47-56, 1992.
- Rapp, C., and Chamberlain, R. Case management services for chronically mentally ill. *Soc Work* 30(5):417-422, 1985.
- Roberts, M.D. Developing case management as a practice model. *Soc Casework* 68(8):466-470, 1987.
- Rothman, J. Macro social work in a tightening economy. *Soc Work* 24(4):274-281, 1979.
- Rothman, J. A model of case management: Toward empirically based practice. *Soc Work* 36(6):520-528, 1991.
- Schulberg, H.C., and Bromet, E. Strategies for evaluating the outcome of community services for the chronically mentally ill. *Am J Psychiatry* 138(7):930-935, 1981.
- Sullivan, J.P. Case management. In: Talbott, J.A., ed. *The Chronically Mentally Ill*. New York: Human Sciences Press, 1981. pp. 119-131.
- Taylor, P. Rise in child abuse, foster care, laid to failed drug policies. *The Washington Post*, April 1, 1992. A-27.
- Turner, J.C., and TenHoor, W.J. The NIMH Community Support Program: Pilot approach to a needed social reform. *Schizophr Bull* 4(3):319-348, 1978.
- U.S. Department of Health and Human Services, U.S. Public Health Service. *The Report of the National Conference on HIV and Substance Abuse: State/Federal Strategies*. Sponsored by the Alcohol, Drug Abuse, and Mental Health Administration; Association of State and Territorial Health Officials; Centers for Disease Control; Health Resources and Services Administration; National AIDS Program Office; and National Association of State Alcohol and Drug Abuse Directors, Alexandria, VA, November 13-15, 1990.

Walker, C.; Zangrillo, P.; and Smith, J.M. *Parental Drug Abuse and African American Children in Foster Care*. Washington, DC: National Black Child Development Institute, Inc., 1991.

Willenbring, M.L.; Ridgely, M.S.; Stinchfield, R.; and Rose, M. *Application of Case Management in Alcohol and Drug Dependence: Matching Techniques and Populations*. National Institute on Alcohol Abuse and Alcoholism. Contract No. 89mf00933901D, Rockville, MD: U.S. Department of Health and Human Services, U.S. Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, February 1991.

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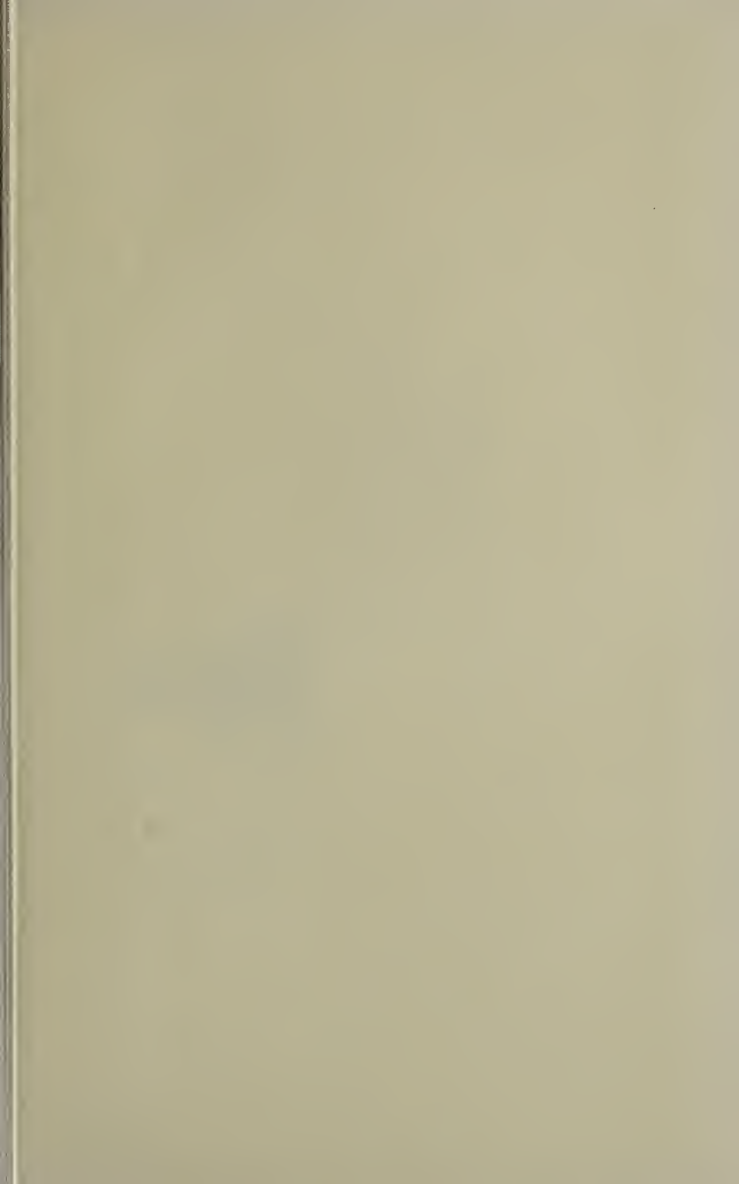
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